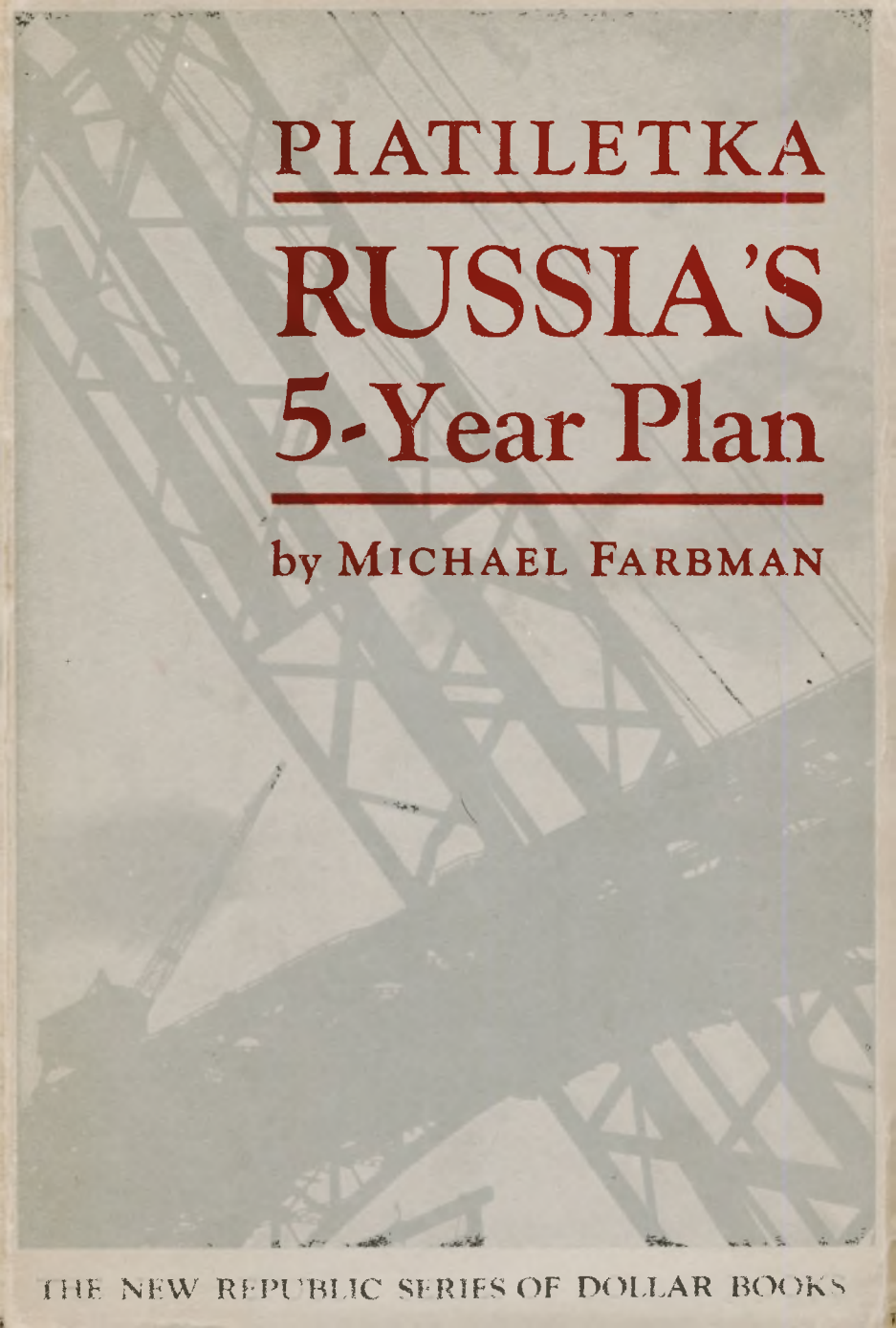

PIATILETKA

RUSSIA'S 5-Year Plan

by MICHAEL FARBMAN

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RUSSIA'S FIVE YEAR PLAN

PIATILETKA

RUSSIA'S 5-Year Plan

by MICHAEL FARBMAN

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The four camera studies which appear as illustrations, and the cover, are reproduced from photographs taken by Miss Margaret Bourke-White, who visited Russia in the summer of 1930 as a guest of the Soviet Government. The complete series of Miss Bourke-White's remarkable pictures will shortly be published in book form.

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PART ONE

RUSSIA IN 1930

I

THE FIVE YEAR PLAN

THE more closely one follows what is going on in Russia today the more clearly one becomes aware of the exceptional character of the events that are there taking place, events which constitute nothing less than the advent of the Russian Industrial Revolution. The outward and visible signs of this revolution can be seen on every side. They permeate Russian life—political, economic and social. The magnitude and profundity of the change in which industry, agriculture and social and cultural relations are involved as a consequence of the execution of the Five Year Plan are such that the October Revolution itself seems by comparison but a dramatic episode,

"an index and obscure prologue" to the real and grimmer revolution which followed ten years later.

Nothing, however, has been less obvious during the last few years than the imminence of a new revolutionary upheaval in Russia. The revolutionary impetus in the country seemed to have spent its force. Evolution and not revolution appeared to be the order of the day, and the Russian Communist Party itself seemed to be ready to assume the position of a Grand Old Party of stalwart guardians of revolutionary tradition, rather than a party of revolutionary change. For it should be realized that the New Economic Policy, which Lenin inaugurated in 1921, restored in Russia to a certain extent the ideas of evolutionary Socialism. Indeed, when Lenin made his momentous announcement of the N.E.P., he declared expressly and authoritatively that the new scheme

was designed not a passing maneuver but as a steady and permanent policy. That he really meant what he said, and that his declaration was not intended merely to reassure the middle class, can be taken for granted. At any rate his sincerity was never challenged or doubted in the years immediately subsequent to the announcement. Moreover there is sufficient evidence that in the last year or two of his life Lenin was more than ever convinced of the efficacy of the New Economic Policy. Eventually he succeeded in converting to his way of thinking even those among his Bolshevik opponents who looked at the N.E.P. as a mere episode in Socialist tactics.

In any case, Soviet Russia was rapidly settling down, and the revolutionary fervor was giving way to a new outlook in which the Communists were learning, in Lenin's words, to "trade well." The result of the reopening of

the market and the tacit recognition of property was not only changing the economics of the country but the very psychology of the people. Politically regarded, the turn from War Communism may never have been conceived as a direct, if only temporary, return to capitalism; but that, economically, it was in the nature of a return to it cannot be disputed. Private capital was making a miraculous recovery; in less than two years after the promulgation of the N.E.P. over 90 percent of the reëstablished retail trade was in the hands of private traders; while even the wholesale trade, the stronghold of the cherished "commanding heights" of the New State was being so continuously invaded by private capital that the encroachments seemed more menacing every day. In 1923 private capital in that branch of trade was represented by a mere 10 percent; but in 1924 it controlled more than 30 percent.

Vanguard skirmishes against the N.E.P. began as early as 1925, when some of the "Nepmen" were taxed out of existence and others were banished to Siberia on charges of "speculation." But these measures had a purely political purpose. In the economic sense, the new policy was strongly entrenched, and could not easily be dislodged. If this was not exactly the Thermidor of Bolshevism, as Trotsky warned the party, it was at any rate dangerously near to it. Yet the economic need for Lenin's policy was so vital that the managers of the party machine were resolved rather to quarrel with their own Left Wing than to fight the Kulaks (rich peasants), as Trotsky challenged them to do. In a speech delivered early this year, Stalin, recalling the circumstances of the new Socialist offensive in town and country, explained why, in his view, Trotsky's demand for a fight against the Kulaks in 1927 was premature and childish. In 1927

the "Nepmen" of the villages were the mainstay of the food supplies; and any attempt to fight them then would have been not only useless but would have resulted in a crushing defeat of the Communists. Only in 1929, when the growth of the Socialist section of agriculture was enabling the state to become independent of the supplies of the Kulaks, could the arm of the Government effectively crush them. "An advance against the Kulaks," said Stalin, "was a serious undertaking. It should never be confused with declamation against the Kulaks or with scratching the Kulaks. But this is exactly what the Zinoviev-Trotsky Opposition was urging the Party to do. To advance against the Kulaks should mean to break up the Kulaks and to liquidate them as a class."

The year 1929 was the great climactic year; for in that year not only was the class war renewed but the great scheme of industrialization

on Socialist lines had succeeded in arousing the imagination and enthusiasm of the urban workers. Why or how an outline of national reconstruction, conceived though it is on the grandiose scale of the Five Year Plan, should have assumed a character capable of being taken as a new revolution, it is difficult to explain. When, in the summer of 1929, I first came into contact with the new situation I was not quite certain whether I was moving in an atmosphere of revolution or of war. The atmosphere seemed to contain elements of both. The enthusiasm and the vibration of temperament were symptomatic of an upheaval; but the concentration of effort, the intensity of activity, the appeal, and even the imperative demand, for making the supreme effort and sacrifice—all recalled the experience of the war years.

My impressions when I revisited Russia in the summer of 1930 were essentially the same,

only intensified. The outlook was sterner and grimmer, the privations of the people more accentuated, the tasks seemed more formidable and onerous; but while a certain "war-weariness" was unmistakable, the enthusiasm in many quarters appeared unabated. Propaganda, however, had become more intense, more insistent, and the drive more bitter and more ruthless. The country still seemed midway between revolution and war. Yet the whole spirit of the time was different from that of either war or revolution. The significant feature of the situation was that an attempt was being made to play on mass-psychology for the accomplishment of a vast economic plan.

The present stage of the revolution is remarkable for its dramatic suddenness and gigantic sweep; but it may pass into history as an audacious attempt to change not only property rights and relations of classes, but even human

nature itself. For, indeed, the industrial revolution which is now being carried out can never achieve even the most moderate success unless it can fundamentally change the spirit and the productive capacity of labor.

Origin of the Plan

Although Lenin died more than seven years ago, he must really be credited with the inspiration, if not with the authorship, of the "Piatiletka." No one better than he understood that if the workers are to be roused for great revolutionary activities, the aims put before them must be grand, simple, and tangible. It was with a view to such mobilization of popular feeling that in 1921 he organized a group of engineers to whom he entrusted the task of working out a plan of electrification of Russia. He was very proud of the Electrification Plan, and used to call it the real program of the

Communist Party. But this first plan seemed so out of tune with the actual economic conditions of the country at the time that it failed to arouse popular enthusiasm. The general public nicknamed it "electrofiction"; and save for the fact that two or three power stations were erected it long existed merely on paper.

Yet, despite all this, Lenin's idea was not dead. The State Plan Commission which he created for the purpose of working out the electrification project continued to exist, and in time developed into a kind of economic senate which today dwarfs every other department of State, and gives the final decision on all financial, economic, social and even cultural problems. There is, indeed, a pronounced tendency for the State Plan Commission to become in constitutional status, as well as in fact, the real governing body of the country.

In 1923 this Commission produced the first

draft of a five years' plan. It was called "the prospective plan for developing the metallurgical industry between 1923 and 1927." But, since so many other industries depend on the output of metal, it may fairly be called the first draft of the "Piatiletka." Compared both with the electrification plan of 1921 and with the "Piatiletka" this metallurgical plan was a very modest scheme indeed. But the situation it was designed to meet admitted of no heroic measures. The output of metals at that time had fallen to 7 percent of the pre-war production; and the authors of the plan conceived no more ambitious scheme than that of trebling it in five years.

At this time, when the national resources were at the lowest ebb, Bolshevik politicians and economists could see no other way of developing Russia than by securing foreign help in the shape of loans, credits or concessions.

Even the most sanguine optimists among them never conceived the possibility of Russia engaging in ambitious schemes of industrialization based entirely or even chiefly on her own resources. The whole world knew that the Bolsheviks were in the direct need of foreign capital; and it was confidently expected that this need would compel them to make some accommodation with Western Capitalism.

In 1924, indeed, the consummation of the Bolshevik hope of obtaining foreign assistance seemed very near. I refer to the treaty negotiated between the first British Labor Government and the U.S.S.R., which provided for a loan to Russia guaranteed by the British Government. Although the proposed loan was rather small and was subject to various conditions, it was hailed in Russia as a definite termination of the financial blockade, and as inaugurating a series of international arrangements.

But the joy was premature. For Great Britain the treaty was never popular, and the provision for guaranteeing a loan was regarded by general public opinion as reflecting seriously on the statesmanship of Mr. MacDonald's government. The Conservative Ministry which succeeded the Labor Government promptly repudiated the Anglo-Soviet treaty, and reëstablished the financial blockade of the Soviets. This repudiation was intended as a shock to the Bolsheviks, who were compelled to regard reconstruction as definitely postponed.

To discuss what might have happened is always futile. But I think I am justified in pointing out that an economic reconstruction of Russia, which had been carried out with the help of foreign capital, would have differed very widely from the Socialist scheme of industrialization now in progress and the Five Year Plan. In my view the investment of foreign

capital in Russia was not only justified by the tendency of economic development which obtained in Russia in 1924, but was the only way of strengthening the forces making for Russia's accommodation with the West. If the Western Powers were really desirous of exercising any influence in the country of Revolution, they ought to have been only too ready to grasp the opportunity of supplying the country with capital for reconstruction. As everybody knows, however, they preferred to continue to starve Russia of capital.

The Bolsheviks gradually became conscious of the dreadful alternative which the country had to face; social and economic degradation or an attempt to achieve reconstruction by the desperate method of reliance on internal growth of capital resources.

Accumulation of capital had to start practically from zero. Yet it did start. Slowly,

almost invisibly, with many setbacks and failures, resources began to accumulate. By 1923 the restoration of the existing plant was being steadily carried on. But the return that came from industries was barely sufficient to keep them going. The first and very moderate reinvestments in them did not take place till 1925. And it was not till 1927 that the general productivity of the country came near reaching the pre-war level. The "Restoration" period was at an end and the period of "Reconstruction" proper began.

Now the real difficulties started; and only optimists of the most sanguine kind could expect that the erection, without foreign capital, of new plant could proceed at the same pace as the more elementary process of replacement of the old. Realists in Russia predicted that the pace would, in fact, have to slow down considerably; and even the State Plan Commis-

sioners, optimists though they always were, seemed to accept this view. In the "control figures," published in 1927, they predicted that the "percentages of increase of production" for the five years 1927-28—1931-32 would be:

1927-28	16.3
1928-29	13.1
1929-30	13.7
1930-31	10.5
1931-32	10.5

Yet at the end of the same year they revised their own estimates as follows: 18.1, 16.6, 17.6, 13.8, 12.8.

But though the Commissioners now expected the output to be considerably larger, they still clung to the idea that the pace would have to slow down. In August, 1928, however, when the first draft of the "Piatiletka" was issued, their figures had again undergone drastic revision. The year 1927-28 had nearly passed and

it was seen that the actual increase on the previous year was neither 16.3 percent as expected in August, 1927, nor 18 percent as estimated in December of the same year, but actually 24.9 percent. The discovery that production in the first year of Reconstruction had increased nearly 25 percent made so great an impression both on the Commissioners and on the Communist Party generally, that the theory of slowing down was condemned as unscientific and reactionary. The final figures of the Five Year Plan, issued in December, 1928, for the years 1929-33, are based on the assumption that production will develop not on a declining but on a slightly progressive scale. They are:

1928-29	21.9
1929-30	20.2
1930-31	21.8
1931-32	22.6
1932-33	22.6

Even this does not represent the ultimate Bolshevik ambition; they seem to be confident that "Plan Economy" is capable of yet greater progress.

II

"WORK MORE" PROPAGANDA

THERE are many aspects from which the Five Year Plan can be regarded. It may be conceived simply as a program of work, that is to say, as an outline of what it is contemplated shall be done in the domain of mining, transport, building, electrical, chemical, and engineering industries, forestry and agriculture. Or it can be described as a financial instrument, a program of taxation, loans, capital outlays and investments. Or again, stress can be laid on the endeavor to raise the educational level of the country by the training of hundreds of thousands of technicians, engineers and agronomists. It is equally possible to dwell upon the military aspect of this industrial preparedness. And there are

other points of view from which the Plan might be considered, such as the security of Russia's economic independence and the widening of the industrial basis of the Socialist State. But these and similar aspects of the Plan contain no element of revolutionary upheaval. Even the gigantic scale of the Plan hardly invests it with a revolutionary character.

What gives it this character is not the scale of the endeavor, nor the scope of its applications, nor the amount of energy it liberates. The essential distinction of the new order which this transformation is designed to bring about is that it involves not only a new technique, but a new spirit, not only up-to-date machines, but a change of attitude towards the machines. The essential difference between Russia and the Western world is, in the last resort, the difference in the productivity of labor. Russia has been poor and backward not because Rus-

sians worked less, but because the product of their work was small. Economic progress is, after all, the increase of the productivity of labor; and progress is evolutionary because the increase of the productivity is naturally a slow process. But if this increase becomes accelerated in a short period we can call it revolution. It is this consciousness of the need for an increase of productivity and the endeavor to bring it about that is marking out the present as a revolutionary epoch.

The productivity of labor is obviously the result of two factors, the amount of mechanical energy at the disposal of labor and the skill and intensity of effort applied by labor. The new factories, the gigantic power stations and the new machines and tools are obviously the basis on which the increase of productivity must depend but the result will be dependent on the human factor, on how far labor is willing and

competent to employ these machines to the limit of their capacity. This is sufficiently well understood in Russia today. And this is why such a terrific propaganda for a more enthusiastic devotion to work, for working better and more intensively, is being conducted in the Press and in the factories. To work more ardently and to get better results is the supreme effort and the highest test of devotion to the cause of Socialist industrialization. All the methods and devices that can be used to inculcate this spirit of labor and devotion—coaxing, cajoling, intimidating, entreating, threatening, appealing to the workers' national pride—are in turn being assiduously employed. And this is why such joy and exaltation is expressed in the Communist Press when it is reported that groups of workers are finding a new delight in increasing their efforts, not because of increased remuneration but from love of the cause.

III

SOCIALIST EMULATION

TO enumerate all the forms assumed by this propaganda for the stimulation of higher productivity is no easy task. Moreover, like all propaganda in Russia, these appeals are couched in a military jargon which makes it difficult to disentangle the meaning from the tedious terminology. That a good deal of the reported enthusiasm and devotion is fictitious and grossly ineffective may be taken for granted. But judging from my own personal observation, and from evidence furnished by actual results, I should say that the movement, although in its initial stage, is very far-reaching. That the former dreaminess of Russian workers can be displaced by an active

attitude to life, that more work and more intensive work is being done in the factories and in the fields, I am genuinely convinced. That the speeding-up methods employed are thoroughly healthy I am not prepared to admit. On the contrary, when I was last in Russia, I could not help being struck by the fever, excitement and impulsiveness of the pace, which hardly seemed steady or native.

The most typical and the most prevalent method of trying to speed up work is the so-called Socialist "emulation" campaign, in which groups of crack workers in one or more shops or factories enter into competition for a higher level of productivity and solemnly undertake to work more intensively, to turn out more than the prescribed quota and to produce it at less cost and with a minimum waste of raw material and fuel. These competitions are assuming the character of a football game, publicly

played and publicly rewarded. The progress of the competitors is announced each day on boards in the shops, reported in the Press, and discussed in numerous "wall news-sheets." The victorious group or factory gains in most cases, in addition to public approval and praise, rewards and prizes. How seriously and with what attention these methods are being followed by the Government and the country can be gathered from reading a single number of any Russian newspaper.

A copy of the *Isvestia* of October 1st, 1930, which lies before me, contains a number of instances of the prizes awarded to the best factories, to crack groups and to crack workers. The factory AMO in Moscow, for instance, which produced 3 percent above the yearly quota, is to receive a prize of 750,000 roubles for the purpose of building houses for workers. The Laps factory in Moscow is awarded 500,-

000 roubles for the same degree of proficiency. The Karl Marx factory in Leningrad, which completed its annual program in 11 months, is adjudged 750,000 roubles towards building a dining-room and a meeting room. The Lenin mine at Krivoi Rog, which was one of the first in the district to complete the full annual program, secures 300,000 roubles, to be devoted to the construction of workers' buildings. The Ilytch metallurgical works at Kharkov, which completed the full second year's program on September 23rd and "gave the country production worth 58 million roubles," obtained a special recompense. Four of its crack workers and two of its crack engineers are awarded travelling scholarships abroad. Alongside with these rewards the papers publish lists of workers, shops and factories which are pilloried for bad work.

The Bolsheviks, it will be seen, are studying

the factory news sheets with unremitting attention and seem quite convinced that their shock methods are revealing a new and superior form of labor discipline which is destined to solve the problem of higher "Socialist productivity." "There can be no doubt," says Stalin in the address he delivered at the last Congress of the Communist Party, "that one of the most important, and probably the most important, element of reconstruction is the Socialist emulation between factories, the joyful competition of hundreds of thousands of workers. . . . The most remarkable feature of this competition is the radical change of attitude in the workers towards labor, which is transforming work from the humiliating and heavy burden it used to be considered, into an act of honor and glory and an expression of courage and heroism."

What makes life in present-day Russia so

dramatic and intense is the consciousness that a great social experiment is being made. Can higher productivity be reached in the short period of a few years? Can it be reached under the stimulus of any other motive than that of mere wage-earning? Can it be reached by pride of achievement or by the sense of part ownership in social wealth? These are the questions raised by the Bolshevik experiment which are awaiting their answer. And according as the answer is favorable or unfavorable the experiment will have succeeded or have failed.

The problem of labor remains the most important and the most puzzling of all the phenomena that are under observation in the Russia of today. And this is why visitors returning from Moscow are found bringing back such contradictory reports. Some are struck by "the unprecedented enthusiasm of labor" for the Plan. Others bear witness to the intensity of

Government propaganda and to "the ruthlessness of the drive." Some speak of the Plan as the Royal Road to Socialism. Others bring back a vision of a Russia which is about to become a servile State. Some are convinced that labor in Russia is being pampered and spoiled by the privileges and flattery lavished on it. Others are lamenting that it is in chains, forced, coerced and dragooned. Some see labor enthroned as the new nobility; others regard it as degraded to a new serfdom.

Speculations of this kind are natural enough. But they are about as valuable as the outcry during the war that American labor had been hopelessly spoiled, or that civil liberties would never be restored. The drive in Russia, ruthless and brutal as it is, bears more than a superficial likeness to the wartime methods employed in this country and elsewhere. While the distant objective may be the creation of new stand-

ards and values for labor, its immediate and most vital aim is "to win the war," in this case to ensure the success of the Five Year Plan at any cost and at any sacrifice.

IV

MIRACLES—AT A PRICE

IT must be realized that industrialization in Russia is not a normal process of growth but the outcome of an urgent need. In most industrially backward countries such a development usually proceeds on foreign loans, and is spread over a number of decades. The Five Year Plan is quite different; for Russia has neither accumulated capital of her own, nor can she procure capital from abroad. In fact, the Plan can only be financed by the mobilization of the national income, and can only be completed within the specified time by the most devoted sacrifices. There were in the circumstances only two ways to reconstruction, either to slow down the process, that is to say, to re-

build the State slowly out of a gradually accumulated surplus, or to speed it up by lavishing on it all the wealth of the State that could be made fluid. The latter alternative, expressed in economic terms, cannot but mean a great degree of privation. Reconstruction by cutting down consumption! Yet diminution of consumption in itself is not enough; only when it is coupled with an increase of production does it become a source of accumulation. Therefore, the gospel which is being preached all over Russia is: "Produce more! Produce better and produce at an accelerated pace!"

The tragic misfortune of Russia, however, is that the very generation which has to make this new sacrifice has hardly had time to recover from the threefold sacrifice which it has already made in the Great War, in the Revolution and in the Civil War. It is these older men who have to shoulder that cost of industrializa-

tion, which in normal circumstances would have been defrayed by later generations. Their attitude towards reconstruction and towards the privation entailed by reconstruction is radically different from that of the younger people, who have been brought up to regard the times of Revolution and of Civil War as the heroic period of Russian history. To this generation the gospel of labor and of sacrifice makes, and is indeed probably calculated to make, a more or less natural appeal. The ambition, not only to rebuild Russia but to rebuild Russia on the most gigantic scale has captured the imagination of many of the young.

The task which the present rulers of Russia have set themselves cannot but be regarded as approaching perilously near the fantastic, as this term is generally understood. Dozens of projects are in course of execution in Russia, all of which would be considered ambitious

even in America. In Russia the contrast between today and tomorrow gives them the appearance of projected miracles. The eagerness to construct the biggest dam in the world, the largest paper works, the most extensive tractor factory or cotton mill, to erect them in the shortest possible time, and to equip them with the most up-to-date machinery is not simply the outcome of ordinary economic development; nor is it merely part and parcel of a policy which deliberately aims at impressing the popular imagination. It is the expression of the delight which Young Russia feels at the sudden discovery of the country's vast and hitherto unexploited material resources. The younger generation of Russians is deeply thrilled, and believes that the Five Year Plan is the gateway to a new epoch.

V

PROBLEMS OF POPULATION

AMONG the problems with which Russia is faced, one of the biggest is that of the immense increase of her population. On April 1, 1930, the total population of the country was estimated at 158 millions, which is 20 millions more than the numbers of those who lived on the territory of the present Union in 1914. By 1924 the population had nearly regained the pre-war level; that is to say, the natural growth of the population after the Revolution had been so great that it had already repaired the heavy vital losses entailed by the Great War, by the Civil War and by epidemics and emigration. In the next three years, from 1924 to 1927, the

net gain was 9½ millions; while in the last three years it has been 11 millions. The average annual increase for the last six years is to be reckoned therefore at about 3½ millions.

These are arresting figures. How striking they are can be gathered from a comparison of Russian expansion with that of the rest of Europe. The net annual increase of population in Europe, excluding the U.S.S.R., is 2½ millions on a population of 370 millions; while in Russia it is 3½ millions on a population of 150 millions. The significant fact, moreover, is that this accelerated net increase is due not to an increase in the birth rate, but to a decrease in the death rate. The birth rate in the three years 1911-13 was 46.8 per thousand; in the three years 1926-28 it was only 40.0. The respective figures for the death rate are 30.5, pre-war, and 17.4 in 1926-28. Thus, whereas the natural growth of the population in 1913 was

16.3 per thousand, in 1928 it was 22.6 per thousand.

This large increase of population raises problems of great consequence. If one considers the enormous area of the country, its great natural resources and the small density of population (7.6 per sq. kilometer), one may be inclined to regard this tremendous expansion with complacency. But, whether in the future it proves a source of strength or of weakness, today these soaring population figures might well arouse a certain degree of apprehension. Yet, to my surprise, I failed to find any evidence of such apprehension, or indeed any admission that there is a population problem. My inquiries in official quarters only elicited a suggestion that I should consult the employment statistics. "Surplus population," I was abruptly reminded, is a conception founded on nothing but Liberal and Social Democratic prejudices.

Soviet Russia does not recognize such antiquated theories. "Over-population" merely means that the productive resources of a country have not been adequately developed; and they cannot be so developed under the handicap of Capitalism. But in the U.S.S.R., where there are no limits to the development of the country's productive forces, such theories can have no validity.

This sweeping and dangerous assurance on the part of the Bolsheviks is partly to be explained by the fact that at the moment the demand for industrial labor is growing even more quickly than the population. In the last 2½ years the number of urban workers has increased by 22.8 percent. It was 8,866,000 in 1927, and by the early part of the present year it had grown to 10,887,000. Not only so, but the drift of the population from the villages to the towns has latterly to a certain extent been

reversed. This is remarkable, as it might have been expected that mechanization and rationalization of agriculture would have displaced human labor in the villages and that these displaced peasants would have flocked to the towns. But this invasion has so far not taken place; and this probably because collectivization is a part of the mechanization scheme. Machines undoubtedly are displacing laborers in the villages; but though the laborers have less to do, they are under no compulsion to flock to the towns. On the contrary, there is a marked tendency on the part of laborers, who used to do seasonal work in the building industry, to leave this town employment and to return to the collective farms.

Whether the decrease of unemployment in Soviet Russia during the last year or so is due partly to the social and economic changes in the villages, or is to be explained solely in the light

of the immense expansion of enterprise involved in the Five Year Plan, it is too early to say. It is equally impossible yet to form an opinion whether this drift back to the land is merely temporary, or whether collectivization and rationalization of agriculture will ultimately avert the threat of agrarian over-population. At this stage one is left with the sense that though the problem of population may not be consciously on the mind of the rulers of Russia, it is nevertheless the background of their present vast experiment.

PART TWO

THE INDUSTRIAL REVOLUTION

I

THE INTERNAL MARKET

WHAT distinguishes the present industrial situation of Russia from that of other countries is its virtual freedom from "selling" problems. Whereas under Capitalism, an economic crisis is usually a crisis of "over-production," the permanent crisis in the Soviet Union is a crisis of "under-production." So far as the internal market is concerned, lack of demand is a problem which the Soviet statesman never has to consider. One hundred and fifty million people are, as it were, standing in a queue and waiting to be served. Indeed, the strange paradox of the situation in Russia is that the producer's difficulty consists not in finding buyers, but in having

to avoid them. And this freedom from the anxieties connected with selling is not merely a result of shortage. Beyond doubt, real shortage is intensifying a hundredfold the demand; but the situation has a deeper significance, due, if I am not mistaken, to three main causes—the vastness of the ever-growing internal market; the organization of the consumers; and the control by the Government of both producers and consumers and of their finances.

The growth of the internal market is essentially, and logically, a post-revolutionary phenomenon. In Tsarist Russia the 120 million peasants were never regarded as constituting a market; for Russian capitalism, adolescent as it was, was eager only to conquer foreign markets. The development of the internal market was impossible; for no increase of the purchasing power of the peasant could be brought about without attempting to solve the land question,

i.e., without provoking a conflict with the landlords. The State, the landlords and the bourgeoisie, therefore, were all absorbed in dreams of conquest, of expansion and of outlets to warm waters; for they believed that once they were able to secure sufficient foreign markets they need no longer concern themselves with the plight of the moujiks.

During the Great War and the Revolution, however, the peasants succeeded in acquiring not only new tastes, but a consciousness of their own power and rights. Their key position as the chief source of supplies of food and raw materials made them the chief market for manufactures. To realize the potentialities of this market, one should visit a village coöperative store during threshing time, that is, immediately before grain deliveries to the Government agents have started. The anxiety of officials to rush manufactured goods to the villages

in time, the newspaper outcry against the inefficiency of transport arrangements and against the slackness of the coöperative societies in coping with this most urgent task, and the sight of the peasants examining the store and taking a mental measure of their chances of obtaining an adequate supply—all indicate in the most lively fashion the importance of the Russian village as a market.

At present, it is impossible to satisfy this market; for there are not nearly enough manufactured goods to go round. Nor will it be possible to satisfy it for many years. For, even if production increases manifold, the standard of living and the new needs of the peasants will still increase at a greater rate. But the opening of this vast market means not only the eventual supply of the needs of the peasants as consumers. The peasants as producers constitute a still more important market. Indeed, this is

likely to be the greatest market of all for the metal, the engineering, the wood-working, and the chemical industries. Among goods in demand by the peasants one need only mention tractors, lorries, motor cars, ploughing, reaping and threshing machines, utensils required for dairywork and machines essential to various village industries, not to speak of petroleum and fertilizers. Moreover, it is claimed that the demand will be free from the fluctuations of the ordinary capitalist market.

Though the organization of the peasants as producers is still in its initial stage, the number of bodies acting as buyers has already been reduced to half a dozen. These are the Grain Trust, the Tractor Center, the Kolhos-Center, the Cotton Grower, and two or three other such bodies, which decide how many and which machines should be ordered to supply the needs of agriculture. Another important circum-

stance which gives the Russian internal market a peculiar character is the fact that the producer of goods is entirely free from anxiety about the financial soundness of the buyer; for the Government controls the finances of buyer and producer alike.

And the peasants' market is not the only one. That furnished by the urban population must not be overlooked. This market is smaller, but big in possibilities of development. Here, again, not only is there a large number of buyers eager for goods, but the producer is the State itself, which controls everything, from raw materials and employment to prices, currency, wages, rates of profit and saving. Moreover, State control of the market is made absolute by the monopoly of foreign trade, which enables the producer to disregard entirely the fluctuations of the world market.

II

THE TEMPO

AS far, then, as demand is concerned there is no restriction on the developments of production. The only limits imposed are those due to the lack of capital equipment, of raw materials and of technical skill. Within these limits the Government policy is that of maximum expansion of production, or, as the Bolsheviks put it, to the "uttermost tempo of industrialization." The Communist use of the word "tempo" needs explaining. There is no other cant word spoken in Russia today so often and with so strong an emphasis. The phrase is generally heard with the epithet "storm" or "Bolshevik" attached, and has quite a complex of meanings. "Tempo" is indeed not merely expressive of a

belief that Socialism permits of a rate of economic development which is impossible under capitalism; it also proclaims the conviction that Soviet industry will ultimately outstrip any other in the world. But the main doctrine or implication of "Bolshevik tempo" is a scornful denial of "pseudo-scientific" theories of gradualness in economic development and an emphatic assertion of the all-important necessity for the concentration of the workers' will-power. And the culminating expression of Bolshevik "tempo" is the Five Year Plan. To regard the Plan as a rigid program is to misjudge it, for it registers, and is meant to register, a tendency of maximum expansion. It sets forth only the goal. The actual scheme is settled by the annual tables, called the "control figures," which are proposed by the State Planning Commission and then adopted by the Government. But these control figures should be taken as a

TEXTILE WORKER, MOSCOW — 1930

Bourke-White

minimum only; and the tendency, as has been said, is to exceed them, if possible, and by as much as possible.

In the most general form the goal which the Plan aims at realizing can be seen in the following table, which indicates the expected increases during the five years of the total population, of the number of wage earners, of the rate of production and of the national income:

INDEX OF DEVELOPMENT OF NATIONAL ECONOMY

Percentages of Increases for the Five Years, 1928-33

Total population	11.8
Wage earners	18.2
All industry	181.
Heavy industry	255.
Light industry	144.
Agricultural production	151.
National income	101.5

It will be noted that the Government contemplates, and ordains, a doubling of income in five years' time, and a practical trebling of industrial production—a really dazzling "tempo"! And even more dazzling if it be remembered that by 1927 Russian economic development had already nearly regained the pre-war level. These figures then, represent not what may happen, but what should happen; they are not a mere vague forecast of development but a confident challenge to the uttermost degree of activity. Action and activity are the keynotes to the Bolshevik mentality and "activnost" (activity) is a cant phrase used almost as often and as emphatically as "tempo." It is the complement of "tempo"; for only a full manifestation of Bolshevik activity will develop the irresistible Bolshevik "tempo." Salvation can come only from activity and not from a slavish reliance on the natural develop-

ment of economic forces. This latter attitude the Bolsheviks describe and stigmatize in their contemptuous use of the word *samotek*, which means "running automatically." A present-day Russian worker, who, instead of intervening actively in the true Socialist fashion, relies on *samotek* or on the operation of natural forces, will hardly escape the condemnation of being "void of lively faith"; for he violates the fundamental doctrine of Bolshevism.

Speeding Up the Tempo

It is no wonder, then, that the Five Year Plan, which, when first promulgated, seemed a purely fantastic scheme, should have been subsequently revised—not in the sense of retardation, but in that of acceleration. The "tempo" has already been changed several times; and during the last months of 1930 a propaganda has been carried on all over the country for a

complete revision of the Plan with the object of completing it in four instead of five years. The slogan "Piatiletka in Four Years" is posted up on the walls of every town, is advertised on the mural news-sheets, flashes out at night from hundreds of electric signs, and forms a pattern on the flower-beds in every park and public garden. The new industrialization loan which is being floated is itself called "The Piatiletka-in-Four-Years Loan."

This determination to accelerate the pace may be taken, and is, of course, meant to be taken, as an indication that the Plan is certain to be completed well within the scheduled time. In some respects the progress made in industrialization is, it may be admitted, considerable enough to warrant the expectation that speeding up is possible. But the vehement propaganda for shortening the period within which the Plan must be completed is probably in-

spired by political and psychological considerations. The tension and privation entailed by the execution of the Plan are tolerated only because a definite and proximate period is to be put to them. If, then, this period can be reduced to four years it will signify that the first and worst half of the workers' travail is already over. The remaining half will then seem shorter and easier. "The Piatiletka in four years" has indeed a double aim, to accelerate the "tempo" of production and to make the tension created by this "tempo" less intolerable by shortening its duration.

III

THE PROBLEM OF LABOR

THE rise and fall of the figures of unemployment in Russia forms a particularly interesting study. Up to 1929 the number of the unemployed steadily increased. It then began to fall; and at present, so it is declared, not only are there no registered unemployed, but there is a real scarcity of labor. Admittedly, the number of registered unemployed is in few countries a full and complete record of the actual state of unemployment, since some groups of the unemployed may be by law or custom refused registration. The Soviet Union is certainly no exception to this rule; on the contrary, records of unemployment among the dispossessed classes, peasants

and some grades of unskilled labor are probably very imperfect. But, even so, the oscillation of the figures for registered unemployment still remains remarkable. Here are the figures:

On April 1, 1927, the number of registered unemployed was 1,477,000. A year later it grew to 1,576,400. On April 1, 1929, it reached a maximum, standing at 1,741,100. On April 1, 1930, it had been reduced to 1,079,100. Since then it has rapidly fallen. In June it was 936,000; in July it fell to 725,000. The latest report is that registration has been totally abandoned, that unemployment benefits have ceased to be paid, and that all registered unemployed (about 300,000) have been offered the opportunity of enrolling themselves for industrial training.

The peculiarity of unemployment in Russia was that the skilled unemployed constituted

only 10 or 12 percent of the total number. The majority of the registered unemployed were peasants settling in the towns in search of employment. The other big group consisted of women and unskilled boys and girls, who had never been employed before. In July, 1930, when 725,000 were still unemployed, 231,000 were peasants, and 415,000 were women, boys and girls. This explains the paradox that the Labor Exchanges had always a greater demand for skilled labor than they could supply. For every 100 unemployed there were vacancies in 1928 for 125, in 1929 for 142, and the first half of 1930 for 181, though it must be realized that many of these vacancies were to be filled in industrial undertakings which were being organized in the provinces. And the disparity between vacancies and the unemployment is to be explained also by the immobility of the unemployed, who often showed a reluctance to

move too far from home, or to places in which labor conditions had an unsatisfactory reputation such, for instance, as the coal mines in the Donetz Basin.

A year or two ago there was a considerable increase of unemployment among non-manual workers which was due to the cutting down of clerical staffs in Government offices all over the country. But the subsequent enormous demand for all kinds of such workers caused by the Five Year Plan has abolished this unemployment. The Kolhosi (collective farms) alone employ at present no less than 200,000 bookkeepers and accountants.

The problem of securing skilled labor, engineers and technicians is still very acute and is likely to be acute for some years. The number of trained men, manual workers and technicians needed by industry and agriculture, and likely to be needed, cannot immediately be supplied.

Take, for instance, the need for engineers and technicians. There are at present some 300,000 engineers in the country. The authors of the Piatiletka demand 1,200,000 such men for the execution of the Plan. The question then arises whether it is possible to train 900,000 engineers in so short a time. Obviously, the only way is to sacrifice efficiency to speed; and this is actually being done. The curriculum in all the technical middle and higher schools has been cut down from four or three years to a two years' course. But even this drastic cut in the period of training will only partly solve the problem. Another way of tackling it which is being adopted is that of sending picked young factory workers to short training courses.

Accelerated Training

The entire technical education has become practical and utilitarian. The technical

schools, even the highest, are now regularly attached to the factories; and all the new factories have special shops where workers are trained by the methods recognized by the Central Institute of Labor. The training shop, indeed, is usually the first shop in a factory to be opened. These factory training schools and shops have two functions, one to train ordinary pupils and to prepare them for an engineering career, the other to give additional training to promising factory workers with a view to their promotion to the rank of engineers. Needless to say, all technical schools are working day and night, and most of them have two shifts.

How far these speeding-up methods will succeed in solving their specific problem in turning out really qualified men it is too early to decide. The business of securing an adequate supply of skilled and semi-skilled workers is

no less formidable than that of obtaining a qualified technical staff. The need for skilled labor to fill the enlarged factories and the new ones which are opening next year is estimated at 500,000 men. How formidable this task is can be gathered from the fact that at present the number of skilled workers in industry is estimated at only 1,600,000 men. This figure, it will be seen, will have to be increased in a single year by one-third. Can this be done? And how can it be done? The factory training shops are already filled to capacity, and can accept no more than probably 30,000 people. Many projects for coping with this difficulty have been suggested. But it is obvious that there is only one way of dealing with it, and that is by the dilution of labor. The steady importation of German and American workers and engineers may be prompted by the idea that an influx of highly skilled men may serve to

strengthen the weakness caused by dilution.

The training of hundreds of thousands of workers for the task of industrialization is one of the most baffling problems of the Five Year Plan. The number, quality and devotion of these *cadres*, as the industrial army is called in Russia, will in the end decide the fate of the Industrial Revolution. The Five Year Plan may have succeeded in alleviating the problem of unemployment. But the problem of technical *cadres* still awaits solution.

IV

THE BURDEN OF THE COST

THE first estimate of expenditure under the Five Year Plan was fixed at 76 billion roubles. This was the program submitted to the Government in 1928. But before it was finally accepted by the Central Executive Committee of the Union, it was revised; and the Plan finally adopted allowed for an expenditure of 86 billions. This total has not since been revised; but in view of the fact that the annual appropriations have been considerably augmented, it is safe to predict that when the Plan is ultimately completed it will be found to have involved an expenditure of close on 100 billions.

This is a gigantic sum, and no attempt should

be made to minimize its significance on the ground that it is expressed in roubles—an inflated currency. It must be remembered in the first place that in 1928, when the program was first fixed, inflation, as we know it now in Russia, had not started, and secondly that the cost and prices in which it was formulated were those of 1926. It is also necessary to remember that the authors of the Plan obviously envisaged the probability of it stabilizing and enhancing the value of the roubles. If their expectation was mistaken and if inflation instead of deflation was bound to occur, then 86 billion roubles was obviously a sum quite inadequate to the financing of industrialization.

That inflation is likely to change the entire financial basis of the Plan may be gathered from the recently published estimates for the intercalatory quarter embracing October, November and December of 1930. For these three

months the revenue is estimated at 8 billions and the expenditure at 7.4 billions. These figures are twice as high as those for any quarter of 1929. No doubt this increase is partly due to the almost monthly widening of the scope of the Plan; but this should normally be an increase of about 10 percent only. The additional 40 percent is thus obviously the result of inflation. The question of inflation and of its possible implications is very important; it can however be disregarded for the moment, as not affecting the original estimates of the Plan. Moreover, I shall lay stress not so much on the amount of intended expenditure as on the relative proportion between expenditure and national income.

From this point of view there can be no doubt about the very severe burden which the financing of reconstruction is imposing on the country. Indeed, it is said to represent no less

than the earmarking of half or even more of the national income for five years. Whether this figure is correct or not, it undoubtedly means that an exceptionally large proportion of the national income is to be withdrawn from consumption and diverted to purposes of production. Even during the war years it is doubtful whether the belligerents actually withdrew such a proportion of their national incomes.

The authors of the Plan are obviously aware of the social and economic implications of their scheme. Nor do they attempt to deny that the tension and sacrifice involved in carrying it through are similar to those called for in the financing of a big war.* But though they claim, with justice, that there is an essential difference

* "Such a mobilization (of national resources)," says Krzhizhanovsky, the President of the State Plan Commission, "is usually only possible in war-time conditions. But then the resources are wasted and the result is always a post-war economic depression. We, on the other hand, are mobilizing our resources for the strengthening of our mechanism of production. They are intended to fertilize

in aim between a war expenditure and one for economic reconstruction, the fact remains that the expenditure on the Five Year Plan represents an unprecedented burden on peace-time finance. It must be admitted that an accumulation and redistribution of national income on such scale is exceedingly impressive. The fact that this burden has not been accepted by popular vote only contributes to the tension of the situation; but it does not detract from the impressive character of the undertaking. No burdens of this kind are ever submitted to the popular vote; but are dictated by circumstances in a national emergency, and people have to put up with them. Such a situation is tested not in advance by an election, but merely by the amount of resistance it actually encounters. In

our productive labor; and we are so sure of the positive qualities of our economic program that, at the end of the five years, we expect, not a fall, but a rise in the purchasing power of the rouble."

this case, it can be stated quite definitely that the amount of resistance to the Plan is small and is directed not against its general purpose, but against its growing incidence. For the finances of the Plan are indeed portentous; the amount to be spent is increasing at a greater pace than the national income itself. Compared with 1929, the national income in 1930 is estimated to have grown by 20 percent—an enormous increase! Yet the expenditure on reconstruction has in the same time grown 43 percent. A similar disproportion is seen if the expenditure is compared with any other index of national economy—the growth of production, the increase of goods in circulation, or the expansion of transport.

The Budget

It should be appreciated, of course, that the instrument still known as the State Budget is

something radically different from a normal budget. The new and complex system of Russian national finance, commonly known as the State Finance Plan, has not yet had its breadth and method clearly defined. But its contours are sharp enough to give us some idea of its wide scope. Briefly described, the Finance Plan embraces all revenues which are usually included in a budget, together with those accruing from socialized industries and trade, from banking and credit, as well as from a number of other sources such as local government budgets, social insurance funds, and internal loans. Obviously the full scope of such a comprehensive system of centralized State finance can only be reached in a completely socialized State. In the Soviet Union, where the majority of the peasants still adhere to the system of private property and where not only trade but even

industry is to some extent privately owned and run, such a unified instrument of finance cannot fully operate. So in this period of transition the Soviet State is formally adhering to the system of a State Budget. But the budget in operation in Russia today deviates considerably, alike in content and method, from that of any other State.

STATE BUDGET OF THE U.S.S.R.

(In million roubles)

Revenue

	Closed Accounts 1928-29	*Estimates* 1929-30
Direct taxation:		
Agricultural tax	449.4	415.0
Turnover tax	1,055.9	1,814.4
Income tax	285.4	494.4
Other direct taxes	20.9	28.4
Total.....	1,811.6	2,752.2

	Closed Accounts 1928-29	*Estimates* 1929-30
Indirect taxation:		
Excise	1,802.6	2,217.2
Customs	258.2	372.0
Total	2,060.8	2,589.2
Stamp duty and other duties	127.6	161.6
Total tax revenue	4,000.0	5,503.0
State property and enterprises:		
Transport	2,199.7	2,798.9
Posts and telegraphs	202.5	260.6
Industry	272.4	854.1
Trade	31.2	212.2
Banks'	108.5	117.0
Forests	307.6	450.2
Mines	65.6	79.3
Other State property	45.8	37.3
Total	3,233.3	4.809.6
Miscellaneous	130.8	98.4
Total non-tax revenue	3,364.1	4,908.0

	Closed Accounts 1928-29	*Estimates* 1929-30
State loans	724.8	1,210.0
Surplus from previous year.	115.1	...
Grand total	8,204.0	11,621.0

Expenditure

	Closed Accounts 1928-29	*Estimates* 1929-30
People's Commissariats:		
People's Commissariats other than post and telegraphs and transport.	1,102.6	1,327.0
Commissariat of Transport.	2,332.6	2,942.3
Commissariat of Post and Telegraphs	193.1	267.6
Commissariats of the Republics	599.0	798.6
Total.....	4,227.3	5,335.5
Expenditure for Economic Purposes:		
Industry	1,002.0	1,886.2
Electrification	175.2	310.0

	Closed Accounts 1928-29	*Estimates* 1929-30
Agriculture	430.9	658.6
Waterways	... *	110.0
Trade	247.0	407.0
Coöperative Societies	4.3	16.0
Communal credit and housing	61.9	120.2
Railway building	123.2	265.4
Various	50.5	35.0
Total	2,095.0	3,808.4
Special funds	248.9	373.8
Grants-in-aid of local taxation	1,014.6	1,209.0
State Loans Services	294.1	450.0
Various, including expenditure of autonomous republics	222.8	444.4
Special reserve of the U.S.S.R.	50.8	....
Total	8,153.5	11,621.1

* Included under agriculture.

If the budget of 1929-30 be compared with that of 1928-29 it will be seen that the income derived from taxation is growing at a smaller rate than that which comes from State domains and the socialized section of industry. In 1928-29 tax-revenue amounted to 48.7 percent of the total budget; while this year it is only 47.3 percent. Loans last year constituted 8.8 percent of the budget; this year they provided 10.4 percent. The total revenue increased in this one year from 8.2 to 11.6 billion roubles.

It is particularly interesting to discover where this additional money comes from. Reliable financial authorities believe that of the increase only half can be credited to the natural growth of the budget. The other 1.8 billion roubles seem to have derived from various new sources, mainly from accumulated resources of industry.

In this connection it is interesting to recall a

controversy which was waged for some time last year in the Bolshevik Press. The Commissariat of Finance was urged to use the simple device of increasing prices for the products of State industries as a sure way of increasing State revenue. Since any increase of prices would have had to be made good by a corresponding increase of monetary wages, which would have led to inflation and so defeated its own purpose, the Government refused to employ the maneuver of high prices. On the contrary, the Five Year Plan is based on the paramount necessity for bringing down prices.

The *price maneuver* is one of the most important devices employed in the financing of the Plan. The Bolsheviks are determined to lower cost of production 35 percent. But it is not intended that the full benefit of this lowering of cost should be handed over to the customers in the form of reduction of prices. Prices

will be reduced no lower than 24 percent. So that 11 percent will be available for reinvestment in industry.

There are, indeed, several cogent reasons for the determination to bring prices down. The first is the necessity to approximate them as far as possible to those of the world market, and even with a 24 percent cut they will hardly fall to this level. Secondly, prices must fall if the State is really determined to raise the purchasing power of the rouble. And a third reason for insisting on a reduction is the urgent need for bringing the prices of industrial goods more or less to the level of those of agricultural produce. But, it will be asked, is a 35 percent reduction of costs possible? And how do the authors of the Five Year Plan propose to achieve it? Their policy seems to follow these lines: rationalization and mechanization of labor, drastic economy in the use of raw mate-

rials and fuel, the raising of the professional and cultural level of the workers, and the modernization of equipment and plant.

This strategical maneuver is so much an integral part of the Industrialization scheme that a failure to bring down cost is bound to shake the foundations of the Plan itself. Increasing prices is repugnant to the Bolsheviks. But at the particular time referred to the temptation to increase prices was so irresistible that a very peculiar compromise was arrived at, namely, a double scale of prices—one the fixed Government price for the stipulated "ration"; the other, often double, for any larger "free" quantity of the same goods. This maneuver, which the Bolsheviks claimed was not violating the interests of the workers, together with an increased excise duty on "goods which though of mass consumption are not prime necessities," such as beer, vodka, tobacco, scent and powder,

gave the State an additional revenue of 450 million roubles. This device of "differential prices" or "class" prices has, however, been abandoned, probably because of the deficiency of supplies.

Taxation and Expenditure

The main incidence of taxation can be seen from the budget figures for the years 1928-29 and 1929-30. General taxation, it will be noted, has risen this year by 1,503 million roubles, an increase of 37.6 percent, which is distributed fairly equally between direct and indirect taxation. The biggest single items are the tax on the turnover of industry, excise duties, State industry, State loans and transport. The decrease in the revenue from the agricultural tax is particularly interesting in view of the concessions and rebates made by the Government to the peasants with a view to stimulating agri-

cultural production and interest in collective farming.

Colossal as the expenditure of nearly 12 billion roubles appears, it represents only a part of the annual expenditure on reconstruction. The full amount of expenditure is expressed by the Finance Plan which, as has been explained, embraces the local government budgets and the revenues accruing from social insurance, credit systems and all expenditure of industry and such bodies as the Coöperative and Trade Union Movement, in addition to the State Budget. The total amount of resources which are absorbed and redistributed through the Finance Plan is estimated at 19 billion roubles for 1929-30. Of this sum, 12.5 billions are devoted to reconstruction of industry and agriculture, and 4 billions to social and cultural needs (Education and Health Services); 2 billions are earmarked for Administration and Defence,

and 500 millions for all other needs. In other words 63 percent of the national revenue is absorbed by Industrialization, 21 percent is used for the needs of what is termed the "Cultural Revolution," 10 percent is spent on Administration and Defence, and 6 percent on the remaining needs.

This brief analysis of revenue and expenditure may serve to show the scale on which reconstruction is being financed. Such an immense accumulation and redistribution of wealth is quite unprecedented. Is this feasible? The estimates for the last quarter of 1930 and the preliminary figures for 1931 show beyond doubt that the authors of the Plan regard such a scale of financing as not only feasible but capable of expansion. The estimates for the last quarter of 1930 I have already given. Those for 1931 are provisionally fixed at 30.5 billions as compared with 19 billions

for 1929-30. Last year's expenditure amounted roughly to 60 percent of the national income. Expenditure for 1931 will represent no less than 70 percent of the national income. It is interesting to compare these new estimates with the original estimates of the Plan. According to the latter, expenditure should have been in 1929-30 14.2 billions; in 1930-31, 17.1 billions and in 1931-32 20 billions. To what causes are these enormous increases due! Are they an indication of the natural growth of resources already included in the Plan? Are they the result of the widening of the basis of the Plan? Or are they simply due to inflation of currency?

My view is that all three causes are operating. But obviously it is impossible at this stage to determine the degree to which each of them is involved.

V

INFLATION

THAT Russia is passing again through a period of inflation is easily proved by a study of the official figures dealing with money in circulation. The fact that there were in circulation on October 1, 1928, 1,970 million roubles; on October 1, 1929, 2,642 million roubles and on September 1, 1930, 4,750 million roubles is proof positive of this. But even this proof is not needed. There is an atmosphere of inflation in Russia which is at once perceptible by every visitor to the country. Anyone who remembers the years of inflation in Germany feels at once that he is experiencing something similar when he arrives at Moscow. And yet there is a difference.

And the difference, if I am not mistaken, is more important than the likeness. The characteristic peculiarity of the situation is that Russian inflation makes its impact on only a single section of the market, the so-called "free market," while on the controlled market it is almost inoperative. And this is why its effect on the free market is devastating. It is fair to state that all the money which cannot be spent in the controlled market, where supplies are restricted and rationed, is diverted to the open market, where the free play of the laws of supply and demand soon make prices soar.

The exact relation between the free and the controlled markets is difficult to establish. If the individualist peasants are to be included in the non-socialist or free market, it would probably make the two sections nearly equal. But the inter-village trade is to a large extent still based on barter, where inflated money has less

importance. So if only town markets are to be counted, the ratio, I think, would be 3 controlled markets to 1 free. This circumstance explains sufficiently why the Soviet Government is less alarmed by inflation than might be expected.

The other peculiarity of Russian inflation is the difference in perspective. In Germany inflation could only be arrested by the establishment of a new currency. In Soviet Russia no one thinks of inflating the *chervonetz* until it is worth nothing, and of then replacing it by a new stable currency. The problem in Russia is solved by increasing production and by throwing on the controlled market a sufficiency of consumers' goods. The present currency crisis was due, in fact, to the withdrawal of an enormous proportion of national income from consumption, for investment in production. The reckless policy of retarding the production of

such light industries as textiles and leather goods, in order to increase the production of the heavy industries, is mainly responsible for inflation. Similarly the export of food stuffs and of textile and other goods has, apart from its deplorable moral and social effect, also contributed to bring about the currency crisis.

Indications are not lacking, however, that a change of policy in this respect is imminent. The production of textiles and of boots, shoes and galoshes is now being taken seriously in hand. Sugar and confectionery are also likely to reappear in considerable quantities on the controlled market.

It is this possibility and in fact the probability of being able to increase the amount of consumers' goods on the market, which constitutes the difference of perspective to which I alluded, and which counteracts the full devel-

opment of an inflationist psychology in Soviet Russia.

The high tension of the financing of Reconstruction will reach the breaking point or will be relieved in exact proportion to the possibility or impossibility of lowering the cost of production and of increasing the output of consumers' goods.

VI

PROGRESS OF THE PLAN

IS the plan succeeding? And is it likely ultimately to succeed? This is the all-important question, which anyone who has been on the scene of the great experiment cannot escape being asked again and again. Yet this is a question easier to ask than to answer. In the first place, it is not clear by what standard the success of such an experiment is to be measured; for it is obvious that it is only formally a concrete scheme. Essentially, its purpose is much deeper and more significant than the outward form indicates; and this purpose cannot be precisely measured by economic indices such as the amount of investments, figures of production, kilowatts of generated

power or employment of workers. The experiment will succeed or fail, the revolution will bring about a new epoch or prove abortive, by virtue not of any measurable values but of the human energies it either releases or retards. The issue in fact will be decided ultimately by the possibility or impossibility of establishing a new attitude in Russia toward such fundamental phenomena as work, property and social status.

If this is the case how can anyone with such experience as is at his disposal express any other opinion than one based on his own prejudices?

But even in respect of the more limited scope of the Plan it is difficult at this juncture to appraise the results; for even here it is hard to say what is the test of success. All that can now be done is to record the physically measurable progress of the Plan during its first two

years of operation. The first year, which began on October 1, 1928, and ended on September 30, 1929, was considered by the Government to be a signal success. The general increase in production was declared to be 23.4 percent, or 2 percent above that provided in the Plan. According to the official statements, the fixed capital of industry increased by 18.7 percent. Ninety-one new factories started production, and their output was valued at 168 million roubles. Many industries, such as those connected with oil, agricultural machinery and implements, electrical goods, rubber and non-ferrous metals turned out a larger output than that fixed in the Plan. The building and chemical trades, sugar and fertilizers were behind in their output; but the remaining industries kept more or less ahead.

Against these favorable indices, however, must be set a deterioration in the quality of the

output; and this is equally true of consumers' and of producers' goods. That is to say, not only were textiles and leather and rubber goods poor in quality but rails and agricultural machines were also faulty. This deterioration was the result partly of the inferior quality of the raw materials, but mainly of the excessive dilution of industry by unskilled and semi-skilled workers, and costs of production also remained excessively high.

Recent Difficulties

The second year of the Plan's operation was generally expected to be a most onerous year. The task allotted to labor in 1930 in the original scheme was exacting enough. But stimulated by the comparative success of the first year's operations, the Government had revised the program and raised the increase of output for the second year from 21 to 31 percent. The

full extent of the privation consequently involved only became evident in the winter and early spring of 1930, when the lack of meat and fats became acute, and strict rationing of food had to be enforced. But hardships were not the only difficulties. Early in the spring a radical change of policy in connection with the peasants had to be hastily effected. The renewal of the class war which had contributed in no small degree to the general tension had to be called off. The unrest in the villages had affected not only the food supplies—I refer to the peasants' wholesale slaughter of cattle—but also the supplies of agricultural raw materials such as cotton and flax. The year was also remarkable for radical innovations in labor conditions. The introduction of the five days' uninterrupted week, with its two or three daily shifts, was on the whole much less favorable to the increase of production than had been hoped.

The indiscriminate change of shifts would itself obviously have had a lowering effect on output; for the difficulty of adjusting the machines to the idiosyncrasies and *tempi* of each batch of workers was bound to put a very severe strain upon them. This strain proved the more damaging because the sudden increase of labor necessitated by the introduction of the second shift could only be met by the inclusion of more semi-skilled and unskilled workers.

Another and more special difficulty that occurred this year was the so-called "fluidity" of labor. Thousands of men would move from one job, and from one region, to another in search of better food conditions, or of a higher rate of pay. This fluidity of labor may, of course, only be a particular phase of that immemorial wanderlust which has always been a characteristic of the Russian; but it has now become so widespread that in the summer months

the country gives visitors the impression of a huge camp. Touring and seeing the country have become unprecedentedly popular; but how far the fluidity of labor is a result of the general craze for movement it is hardly possible to say. The fact that it is most prevalent in the coal-mining districts, which have an evil reputation in the matter of housing, food supplies and labor conditions, must not be overlooked.

Retarded Productivity

In any event, the increase of the general *rate* of production in 1930 seems to have been no larger than that of 1929. When account is taken of the enormous investments made this year in industry, of the increase in the number of workers employed, and of the new factories opened, it becomes evident that there has been a certain lowering of the *tempo*. In the case of some of the key industries, such as building,

transport and coal-mining, the retardation of the rate of production has indeed been considerable; and on September 3, 1930, the Central Committee of the Communist Party circulated an appeal, published in all the newspapers and addressed to its members, to Trade Unionists and to young Communists, calling for a fresh and increased effort. It put all the blame for the shortcomings on the bureaucratic minds and methods of the managerial element, who were accused of lacking energy and initiative and—greatest crime of all—of being unable to realize the tremendous creative activity of the masses. The reasons given by the factory managers for their inability to realize the full rate of the prescribed increase of production can be summarized as shortage of raw materials, of capital equipment and of fuel. The validity of these reasons was and is disputed by the Central Committee of the Communist Party,

which points out that in those factories which have exploited to the full extent the initiative and devotion of the workers the full program of work has been executed.

The Central Committee also declared that the Socialist system of labor, which had demonstrated its efficiency so convincingly in the course of the execution of the Plan, was quite powerful enough to overcome the intrinsic difficulties of the situation. They claimed that if the activity of the masses had been given more scope, it would have retrieved the position. All that was wanted was to invite the masses not only to execute schemes prepared from above, but to participate in the adaptation of the Plan to the requirements of their own trades and shops.

The New Drive

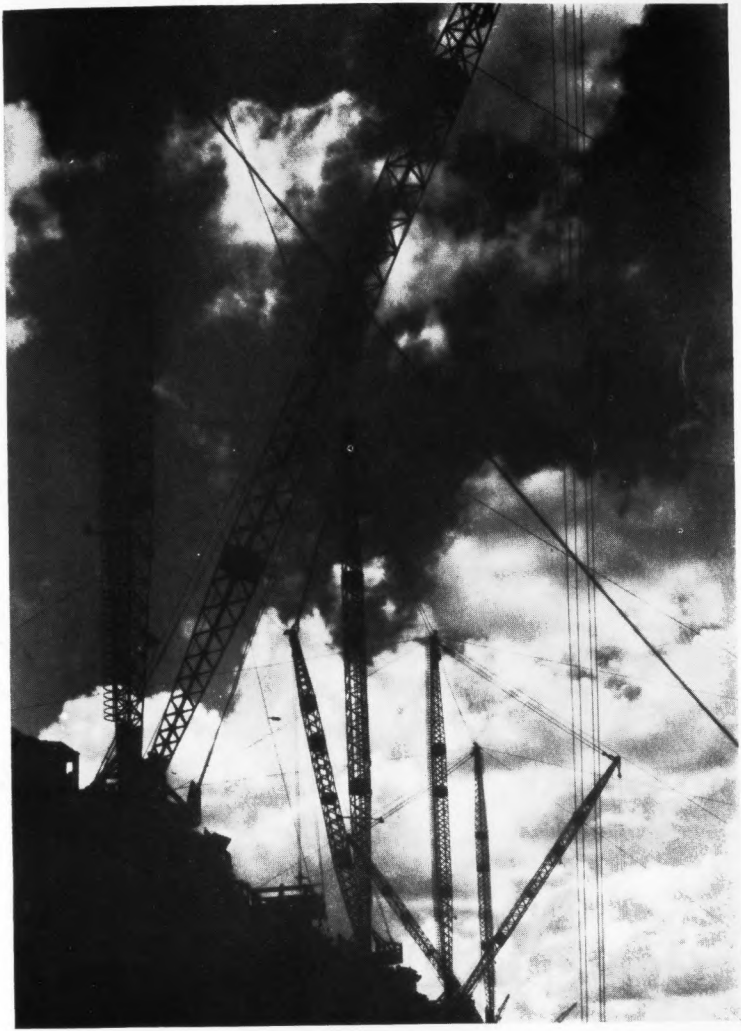
This "planning from below" is now the order of the day in Russia, and with their customary

impetuosity and frenzy the Bolsheviks are throwing all their energy into the development of this particular kind of "Socialist emulation." Workers, especially young workers, have discovered a great enthusiasm in participating in the framing of plans, hitherto the preserve of the managers. They are investigating the internal resources of the factories and they are ready to *promise* to fulfil a program of output greatly in excess even of that fixed by the Planning Commissioners. Workers in a factory who have made this promise challenge their comrades in another to compete with them in executing it. This new enthusiasm on the part of the younger workers is now being assiduously employed to arrest the "fluidity" of labor. It is considered a patriotic duty to promise to remain at the same factory for the duration of the Plan.

The ominous fact remains, however, that the

second year's operation of the Plan has been less successful than that of the first. In no respect has the anticipated progress during the second year been realized. Yet, comparing the progress made in 1929 and in 1930 an observer must be struck by the close proximity of the actual achievements in these two years. In the first of these years he would notice that the output was larger than that provided for in the program, whereas in the second year it was smaller. But he would also observe that the rate of progress in the two years was practically identical—a 24 percent increase on that of the previous year. If this annual increase constitutes the limit of progress attainable, then it is clear that the chances of completing the Five Year Plan in four years are doomed.

Whether a 24 percent increase represents something of a norm, or whether the pace will slacken or increase, only time will show. The



DNIEPERSTROY — 1930

Bourke-White

year 1931 is bound to be a crucial year. But the last three months of 1930, which the Bolsheviks have made an "interregnum" period, may make an important contribution to our knowledge of the productive forces and possibilities of the Union. These three months are called "the shock period," and the word has gone forth that "Moscow expects every man to do his duty." But, when all is said, an annual increase of even 24 percent is so enormous that grave doubts are bound to linger whether it can be maintained. True, the increase of output in Russia during the last two years has to a great extent been achieved at the cost of quality. But even if the percentage of output be heavily discounted on this account, it still remains remarkable, a percentage higher than that recorded within recent times in the history of any nation.

A final judgment of the possibilities of the

Plan must in the nature of things be postponed. But whatever these ultimate possibilities may be and whatever may be the cost at which they are secured, the advance in industry made in Russia in the two last years cannot be regarded as anything but extraordinary.

VII

THE KEY INDUSTRIES

THE importance of developments in the basic industries under the Five Year Plan is so great as to merit brief examination in detail.

Mining and Metallurgy

No metallurgical magnate in the capitalist world is so much preoccupied by and enamored of iron and steel as these Marxian Socialists. To them "black metal" is the embodiment of Socialism in the making. That is why no effort is too exacting, no sacrifice too big, when iron and steel are at stake. To regain and outstrip the pre-war production of iron and steel has been the greatest ambition of the Bolsheviks.

The output of pig iron in 1913 was about four million tons. The Revolution and the Civil War reduced this output practically to zero. In 1921 it was only 7 percent of the pre-war production. Progress in increasing production has been extremely slow; and when the authors of the Piatiletka fixed the rate of production of pig iron for the period of the Plan at four, five, six, eight and ten million tons for the series of years 1929-33, the program seemed impossible of accomplishment. This summer, however, the Central Committee of the Communist Party declared that the output of 10 million tons stipulated for 1933 would be quite inadequate for the growing needs of agriculture and industry, which could only be satisfied by a production of at least 17 million tons. How far this new program will prove merely chimerical will depend on the output of metallurgical works which have still to be erected.

The new foundries which are under construction, the Magneto-Gorsky, the Kuznetsky and the Zaporozhosky, are to have an output of 4½ million tons. These giant foundries, supported by the smaller foundries which are now being enlarged or erected, may possibly give an output as large as that contemplated in the original draft of the Plan, that is to say, 10 million tons. The production of an additional 7 million tons appears at present to be a mere grandiose project.

If one passes from those dreams of the future to an account of actual production in the last two years, one has to record real and solid progress. Yet this progress can in no way be said to justify the fantastic estimates of expansion which are seemingly based upon it. Here are the figures:

PRODUCTION OF THE HEAVY INDUSTRIES

	1928-29 *Thousand tons*	1929-30 * *Thousand tons*	*Percentage of Increase*
Pig iron ..	4,018	4,988	24
Rolled iron	3,878	4,439	14.5
Steel	4,720	5,551	17.6

The following are the percentages of increase of the 1929-30 production as compared with the pre-war level: Iron, 24.7; rolled iron, 26.5; steel, 30.7.

The output of the mines has also been very satisfactory, as will be seen from the following figures:

	1928-29 *Thousand tons*	1929-30 * *Thousand tons*	*Percentage of Increase*
Iron ore ..	7,208	10,148	40
Manganese	1,262	1,561	23.8
Copper ...	777	900	15.6

* Provisional.

Although these figures represent considerable increases, they are a good deal below the increases estimated for the current year.

Coal

The pre-war output of coal was 23 million tons. In 1927-28, the output is given as about 36 million tons, and the Plan provided for the trebling of the pre-war output in five years. The production in 1928-29 equalled 40 million tons, and the program for 1929-30 has been increased from 46 million tons, as provided originally in the Plan, to 52 million tons, while the output for the third year of the Plan, which was fixed originally at 52 million tons, has now been altered to 75. So, in the revised estimate, the Five Year program is to be fulfilled in three years.

The actual output for 1929-30, however, was short of the revised figure, but was exactly

equal to that provided in the Plan for that year, namely 46 million tons. The fulfilment of the plan of coal production in three years is, therefore, not likely to materialize, unless the frenzied efforts which are being made to improve the situation give speedy results. The Donetz Basin has now been declared the "danger spot" of the front, and great endeavors are being made to reorganize this field as speedily as possible. In the first place, an effort is being made to mechanize output; secondly, labor conditions are being improved and intensive propaganda is being set in motion for the application of more stringent methods in this region.

Building

The building program outlined in the Plan is probably the most ambitious of all its schemes. The capital investment, including that for equipment of factories and for workers'

houses, amounts to 18.6 billion roubles, based on prices prevailing in 1928. The actual investment, it is hoped, will be less. To grasp the meaning of these figures it is enough to say that the fixed capital of the entire industrial undertakings of the country amounts only to 10 billion roubles. The biggest part (78 percent) of this fresh investment is assigned to "heavy" industries such as power stations, iron and steel foundries, tractors, motor-cars, tools, chemical industries, agricultural machines and the mining industry; and only 22 percent is allotted to the building and equipment of factories devoted to "light" industries. This development was planned originally to take place within the period of five years; but, in accordance with the general tendency for increasing *tempo* it has now been decided to complete it in three-and-a-half years. The expenditure for 1930 therefore, which was to have been 2,331

millions, has now been raised to 3,960 millions.

The accelerated *tempo*, however, proved too exhausting, and the revised program has not been maintained this year, the causes being lack of skilled labor, and the insufficiency of building materials. This insufficiency is another instance of the effect of the tension. The production of all sorts of building materials, cement, timber, brick, glass, iron girders, has increased over 30 percent; and yet there has been such a virtual scarcity that a competition for securing such materials has been going on between various building syndicates to the general dismay of the Bolshevik leaders and Press. Many reasons have been put forward for this retardation. Strangely enough one of them is that only 51 percent of all the buildings under construction have got finally approved working plans and drawings, while the rest have to be erected from sketch drawings.

Petroleum

Oil, electrification and agricultural engineering are the three industries which have not only fulfilled the program of output outlined in the original Plan, but have more than fulfilled the revised figures which have recently been imposed upon industry. The increase of output of oil during 1928-29 amounted to 14.4 percent. During the second year of the Plan this rate rose to 26 percent. The actual output in 1928-29 was 13,547,000 tons; in 1929-30, 17,066,000 tons. The original figure of the Plan for 1929-30 was 14,000,000 tons; later it was revised to 16,000,000. The actual output, therefore, was 1,000,000 in excess of this revised figure. The progress of drilling operations has been as satisfactory as that of output. In 1928-29 drilling extended to 438,000 meters; in 1929-30 it reached 551,000 meters.

Electrification

Electric power is the pet industry under the Plan. The Bolsheviks remain true to Lenin's formula that "electrification plus Soviets equals Socialism." The progress made in the last ten years is bigger than that reached in any other industry, yet the disproportion between the need for power, and the actual output is hardly less today than it was ten years ago, a fact which throws an interesting sidelight on the rate of industrial development of the country. This progress, as well as the eagerness to develop power as quickly as possible is seen from the following investments made during the last two years:

In 1928-29 investments amounted to 320 million roubles; for 1929-30 the figure was 640 million roubles, and the estimate for 1931 is 1,180 million roubles. These figures are not at

all surprising in view of the tremendous construction which is going on, including the Dnieprostroy, which, when finished in 1932, will be the biggest water power station in Europe.

Figures of the power generated for the two years under the Plan are as follows: 1928-29, 2,319,000 kilowatts; 1929-30, 3,320,000. It is stated that the progress in electrification would have been much more marked if new construction did not have to depend on foreign imports of turbines and generators. In order to increase the rate of progress of electrification of the country, attention will therefore have to be turned to engineering in general, and electrical engineering in particular.

Electrical Engineering

This, like electrification, is practically a new industry in Russia. Even today, when it is still

in its initial stages, comparison with pre-war figures has no validity, and the annual increase for the last few years dwarfs previous production. For instance, production in 1928-29 had a value of 272 million roubles, while in 1929-30 it rose to 503 million, thus nearly doubling itself in a year. The estimated increase for next year is more than a doubling of production in 1929-30. But the satisfaction which engineering and electrical engineering are giving to the Soviet Government is based not only on the output but also on the fact that the Russian factories are now able to turn out machines which only a few years ago would have been beyond the range of possibility, *i.e.*, turbines and electrical generators.

The production of machines for agriculture increased in the past year by 54 percent, and was nearly five times as big as the pre-war output of such machines. But nothing shows more

clearly the ambitious scale of the Plan and of its revisions than the fact that this increase of output of over 50 percent in one year is below the task allotted to this branch of industry in the Plan.

Light Industries

If we pass from the "heavy" industries, producing producers' goods, to the "light" industries, producing consumers' goods, we find that the rate of progress in output is greatly diminished. That light industry is progressing more slowly than heavy is the result of a deliberate policy, though the decrease of production in the light industries during the present year is due not only to design but also to circumstance, mainly to a lack of raw materials. But whatever the reason, it is remarkable that in many of these industries the output is actually lower than that of last year. Thus, the output of cotton goods was this year 16.7 percent below

that of 1928-29, when it totalled 2,826,000,000 meters. In 1929-30 it was only 2,353,000,000 meters. The production of woolen and linen goods has been slightly better, but the increases were comparatively small. The output of woolen goods in 1928-29 was 115,000,000 meters, in 1929-30, 124,000,000 meters, an increase of 8 percent. The output of linen in 1928-29 was 182,000,000 meters, in 1929-30, 205,000,000 meters, an increase of 12 percent.

The leather industry made considerable progress, and in some branches there was a rise in production of 27 percent. The manufacture of shoes and boots increased very heavily; in 1928 production amounted to 38 million pairs, in 1929 to 62 million pairs, a rise of more than 60 percent; but the quality of the goods deteriorated badly.

PART THREE

THE AGRARIAN REVOLUTION

I

THE CRISIS

THIS year no less than 40 million hectares, or nearly one-third of the whole area actually under cultivation in Russia, have been brought under the scheme of socialized agriculture, that is, have been included either in State or Collective farms, which have supplied quite half of the marketable surplus of grain. And of these 40 million hectares, 12 millions were ploughed by tractor-power and were cultivated by correspondingly mechanized implements and machines. These are two of the outstanding facts of the Russian agricultural situation, the significance of which it is difficult to exaggerate, for they point to nothing less than the dawn of a technical as well as a

social revolution. They deserve therefore the closest attention and study.

In order to understand the origin and character of this trend toward mechanized and large scale agriculture on a Socialist basis, it is necessary to describe the main phases of the land crisis through which post-revolutionary Russia has passed.

In general everyone was aware of this crisis. That a country which in pre-war times exported an average of 10 million tons of grain yearly should be suffering from an inability to feed itself, a situation which for a number of years practically bordered on famine, was indeed one of the most puzzling phenomena of post-war conditions. But, though this phenomenon excited wide public interest, it was never fully understood. Yet, without some understanding of the nature of this retardation or degradation of agricultural production, it is impossible

either to realize the causes of the Revolution which is now occurring in Russia or to estimate its possible results.

The first point to notice then is this: if we consider merely the general level of production, if we only compare, that is to say, pre-war and post-war areas under cultivation and the general yield of crops, we are forced to the conclusion that the primary cause of the agricultural crisis cannot be found there but must be looked for elsewhere. If we only compare pre-war and post-war areas under cultivation, and the general yield of crops, we are forced to the conclusion that the primary cause of the persistent shortage, long after the worst of the war havoc had been made good, does not lie in the war. If we take the area under cultivation, and the gross yield of crops in 1913 as 100, we discover that the corresponding figures for the last two years are as follows: *Area*, 1928, = 94.7;

1929, = 98.2. *Yield*, 1928, = 90.8; 1929, = 94.4. These figures show clearly that the recovery of grain production has been extremely slow, and that even 11 years after the outbreak of the Revolution it was still some 10 percent below the pre-war level. But a drop of 10 percent should not in the ordinary nature of things have assumed a menacing character, for the 1913 standard allowed an export surplus of between 12 and 15 percent of the gross production.

In a sense, these export figures never represented a real surplus. Russia was considered the granary of Europe rather in view of her potential than of her actual production. Considered from the point of view of what the country produced per head of population, Russia should have ranked among the grain-importing rather than among the grain-exporting nations. In fact, compared with grain-exporting countries

overseas, such as the United States, the Argentine or Canada, Russia was never a really "great" producer. Canada's average production per head was nearly 5 times greater; and that of the United States and of the Argentine 2½ times as great. In any case, however, whether Russian pre-war grain exports constituted a real or a "fictitious surplus," the cessation of such exports should have resulted in the 1927-29 supplies being adequate for the home market.

Allowance must be made, it is true, for the increase of population and for the increase of grain consumption in the villages. With regard to the first factor, the population statistics in Russia have fluctuated very remarkably. The Great War, the Civil War, famine, epidemics and the lack of provisions cut off many millions. This gap was approximately filled by the natural growth of the population up to

1925, and the net increase in population by 1928 was not much more than 10 percent over the pre-war level. Moreover, though the post-war peasant consumed more food, this increased appetite was less for grain than for more intensive stuffs such as meat, eggs and poultry. The level of grain production reached in 1928 should, in fact, have sufficed at least for all domestic requirements. Yet in that year Russia had to import grain from the Argentine.

The Lack of Real Surplus

Obviously the figures representing agricultural production in general cannot in themselves sufficiently explain the situation. The fact of the matter is that what determines the amount of grain that comes into the market from any given area, is not merely the amount sown and not even the amount reaped. The marketable surplus is not merely a surplus which is left

after the needs of the peasants have been satisfied, but the amount of grain *deliberately produced* for the market. In pre-war times it was the landlords and the well-to-do peasants who produced grain for the internal and external markets. Roughly estimated, the gross production and the marketable proportion of grain furnished by the three main groups of producers —the landlords, the well-to-do peasants and the multitude of small-holders—were as follows: For the quinquennial period of 1908-13, of the total production of 5 billion poods, the landlords furnished 600 millions, of which nearly half (47 percent) reached the market. Their share of the gross yield was 12 percent; while their share of the marketable surplus was 21 percent. The well-to-do peasants, now a diminishing race called Kulaks, produced 1.9 billion poods, of which one-third (34 percent) was brought to the market. The Kulaks' share

of the gross yield was 38 percent, while their share of the marketable surplus was 50 percent. The middle and small holders, called respectively *seredniaks* and *bedniaks*, produced 2.5 billion poods, of which 14.7 percent was intended for the market. The proportion contributed to production by these cultivators was 50 percent; but they only contributed 28.4 percent to the marketable surplus.

It will be seen, then, that the smaller the holding the bigger proportion of its produce will be retained for home consumption. When, therefore, the large estates, those belonging to the landlords and the Kulaks, were broken up and the land redistributed among millions of smallholders the production of grain *for the market* practically ceased. Grain was no longer brought there and offered to the consumers; the latter were compelled to take the initiative and to search for the grain themselves. The general

fall in agricultural production that took place after the Revolution only accentuated a crisis which would have occurred in any case. In this anarchical situation in which consumers and their agents, the bagmen, were competing with one another for the favor of obtaining such grain as was available, and were offering in exchange anything from gramophones to sables, the Government soon intervened, and in the interest of the State organized campaign after campaign with a view to requisitioning the supplies from the villages. But, though the pressure exerted by the Government became more and more stringent, and the peasants were compelled to part with some of their grain, the bread war proved inconclusive, for the simple reason that a real surplus, as the peasants stubbornly insisted, did not exist.

We have seen that even in pre-war times the smallholders delivered to the market only 14

percent of what they produced. Subsequently, when the total number of smallholders increased from 16 to nearly 26 millions and the average area they cultivated progressively decreased, their contribution to the production of a marketable surplus became practically nil. The appearance in the villages between 1917 and 1928 of 10 million new smallholders and the consequent diminution of the average holding is, in my view, not only the most important single fact of the post-revolutionary period, but the key to the understanding of all the currents and under-currents of the present agricultural situation.

The 1928 Crisis

The year 1928, as I have already stated, was crucial. The aggregate production of grain nearly reached the pre-war level; while the machinery for "collecting" the surplus was so perfected that by one means or another, by eco-

nomic, administrative or financial pressure, the Government should have been able to extract every pood of surplus in the villages. Yet the amount of grain that came into the market from all sources represented only half the amount which used to be brought to the market. This was the more disquieting because even of this proportion a quarter was contributed by the new class of prosperous peasants who rented land, and employed hired labor. It had become quite evident that the production of grain for the market would be increasingly monopolized by this class. The rest of the 26 millions of cultivators were just able to feed themselves; and a crisis of the first magnitude had evidently arrived. Small scale peasant cultivation on a poverty level of 2 to 4 hectares' holding stood condemned as a social and economic anachronism. It had to give way to some form of large-scale cultivation.

The alternatives were either to encourage that social differentiation in the villages which was a direct consequence of the New Economic Policy and to acquiesce in the aggrandizement of the Kulaks, or to organize a regular scheme of coöperative cultivation among the less prosperous smallholders. The choice of an alternative was, however, only possible theoretically. Aware that private ownership of the land was (in Lenin's words) "creating capitalism every day and every hour," the Bolshevik Government was already committed to a policy of collectivizing and mechanizing agriculture and of "liquidating" as speedily as possible the Kulaks.

The Communist Party accordingly decided forcibly to interfere with a vigorous drive towards coöperative and mechanized agriculture as the only effective counterblast to Kulakism. But to render possible any interference with the development of Kulak agriculture,

which at the moment was the main source of grain supplies, another source had to be tapped at once. The big American and Canadian farms served as a model for the new experiment and American agronomical engineers and experts were engaged to start it, while the great virgin plains in the southeast of Russia, where the meteorological and soil conditions resembled those of the wheat belt in America, were chosen as the scene of operations. Yet, ambitious as this scheme was, it was intended originally merely as a stop gap. The real plan of the Government was the inauguration of large-scale collective peasant farms which should have the double mission of superseding individualist holdings and of producing enormous quantities of grain for the market. The consequent organization of large-scale and highly mechanized State Farms on which the Government embarked, and the lavish expenditure of money,

energy and propaganda on the infinitely more ambitious plan for promoting coöperative farming, are the salient features of the great agricultural experiment.

II

THE STATE FARMS

ALTHOUGH the term "Sovhos," Soviet Farm, is employed to describe other large State enterprises such as beet, flax or cotton plantations, it is now mainly applied to the immense "wheat factories" managed by "Zernotrest," the Grain Trust, a company, which, though created and financed by the Government, conducts its own business on commercial lines. The first principle on which these farms were organized was a strict understanding that they should consist of entirely fresh and uncultivated land.

The question at once arose whether such land existed and if so whether it was possible to bring it into cultivation. It was pointed out

that under the Tsarist Government the officials of the Ministry of the Interior always declared that there was no free land in European Russia on which settlements on even a moderate scale could be established. But such declarations were proved to be the result of pure ignorance; for the Grain Trust has been assigned an area of over 12 million hectares (28 million acres) over three-quarters of which are either virgin soil or areas left derelict. Of these 12 million hectares, more than 8 millions are situated in European Russia. Analyzing the figures in question, Professor Chajanor, one of the most famous of Russian agronomists, expresses his surprise at the opinion prevalent in pre-war years that Russia had no free land.

"When one realizes," he says, "the ease with which tremendous areas could be found, even in such over-populated regions as the Black Soil belt, one marvels at the chaotic character of our

former knowledge of the country's wealth in land." Of these areas over one-half is virgin soil (*tcelina*); about a quarter are lands which have not been cultivated for years (*zalezhi*); and about one-eighth consists in cultivated land incorporated in order to round off the area; the rest is pasture and waste land.

It must be pointed out, however, that only a small part of the land assigned to the Trust has so far been brought under cultivation. This year the actual sown area was 1,200,000 hectares; for the coming winter and spring sowing 4½ million hectares are to be ploughed; while according to the Trust's program the complete assimilation of the land assigned should be completed by the end of 1932.

The chief regions in which the Trust operates are in order of assignment as follows: the Northern Caucasus, the Southern Steppes of the Ukraine, the Middle and Lower Volga lands,

the southwestern parts of Siberia, the Urals and the Bashkir Republic. It also manifests a tendency to move the wheat-belt as far as Kossackstan, the area between the towns of Uralsk and Semipalatensk. Meteorologically regarded, most of the districts which are the scene of the experiment belong to the semi-arid zone, which has a rainfall of 350 to 400 mm.; while the Steppes of the Ukraine and the areas in the Northern Caucasus are practically included in the arid zone, having a rainfall of only 300 to 350 mm. The districts in the Northern Caucasus, in Kossackstan and the Ukraine suffer also not only from lack of rain but from the *Sukhovey*, or dry hot wind, which blows away the upper layer of earth. In respect of soil, however, the lands administered by the Grain Trust are on the whole satisfactory. They belong to the typical wheat zone; and most of them are *Chernozem* (black soil),

which shades off into dark and light "chestnut" soil.

The natural climatic conditions sufficiently explain why these lands have remained unpopulated and uncultivated. They could never have been broken up by horse-power, and the primitive implements of the ordinary settler. Deep and rational ploughing, selected and drought-proof seed, and, most important of all, speed in ploughing, sowing and reaping to defeat the ravages of the wind—all these were required and could only be supplied by modern mechanized technique. In cultivating these domains it was decided to make no attempt to fight meteorological conditions and to adopt the American method—bare fallow; that is of sowing the land with wheat in the spring, and of ploughing it in the autumn with a view to its accumulation of moisture. The experts of the Grain Trust seem, indeed, to have reconciled

themselves to the possibility or even likelihood of periodical failures of crops; but they hope that the use of high technique and the hundred percent mechanization of all processes of cultivation will make the recurrence of such failures occur at longer intervals, once, say, in five or even once in seven years

The argument employed in justification of this policy, which the agronomists claim will prove to be the truly economical one, is well worth following. These experts maintain that in any given year a failure of crops will never extend over the whole cultivated area, for the simple reason that this area extends from the Black Sea to Siberia. A failure in one district will be compensated for by good harvests in others. And at any rate the extensive cultivation of wheat which will take place under this system will in their opinion more than compensate for any possible loss from practical failure

of crops. They point out that an experiment of the kind is only made possible by the specific character of the farms, which contain no population dependent on the yield. Here, therefore, failure of crops merely means a loss of seeds and labor, but does not involve famine.

The area of most of the State Farms varies between 30,000 and 60,000 hectares; but there are some with over 100,000 hectares and one, the "Gigant," contains 220,000 hectares. The question of the optimum size of such a farm is not quite settled; but the tendency is towards larger and larger areas on the ground that the bigger the farm, and the more tractors and machines it employs, the sounder economic basis there will be for the upkeep of the repair shops, for warehouses, parks, fuel, and for the housing of the engineering staff. The personnel on such a farm is 90 percent engineers, and only

10 percent agronomists. The limit of size is imposed by transportation connections.

Of the financial basis of the Grain Trust, it is difficult to furnish a complete account; one can only give the figures published in the Press or communicated by the officials concerned. The sum invested in the area actually ploughed is 70 roubles per hectare, which comprises the expenditure on machines, buildings and road-making. This, for Russia, represents a very high investment. And yet the investment is being increased; for the Government propose to extend and to intensify cultivation on these farms by investing 620 million roubles on them in 1931, as compared with an expenditure in 1930 of 234 million roubles.

The result of the first two years of work on the farms is declared to be highly satisfactory. The harvest reaped this summer was 40 million poods, or over 650,000 tons, excluding grain

consumed by the 110,000 laborers employed on the farms, and that reserved as seeds. This means an average yield of 9 8/10 centners, *i.e.*, 56 poods per hectare (equals 13.6 bu. per acre), or about 16 poods more than the average yield in Russia. The cost of production on the farms managed by the Grain Trust has been published only for 1929, and is put down as 5 roubles a centner (equals about 70 cents per bu.).*

Life on a Sovhos

The State Farms were started as an experiment, and the aim was to produce a moderate amount of grain so as to enable the Government to undertake the much bigger experiment of running Collective Farms. It was soon realized, however, that the State Farms had greater potentialities than was at first imagined; and today the State Farm is nearly as important an

* In this, and subsequent translations of costs into dollars, the rouble has been taken at its nominal value: 51 cents.

instrument for developing Russian agriculture as the Kolhos movement itself. This being so, when I went to Russia in the summer of 1930, I gladly seized the opportunity of making first-hand acquaintance with the "Sovhosy." I inspected two of them, one styled the "Gigant," the other rejoicing in the more modest name of "Soviet Farm, No. 2." This latter, a combination of agricultural college and farm situated near the town of Rostov on the Don, in the Northern Caucasus, is designed to train special engineers for mechanized agriculture. And the college, which has at present a teachers' staff of 70 and 525 students, is called "The Institute of Engineer Mechanics of Socialist Agriculture." In the spring of 1929 the area of the future farm, comprising 115,000 hectares, was an uncultivated steppe. Of this area 41,000 hectares were sown this spring, while 60,000 hectares are to come under cultivation next year. At

present it embraces the college buildings, a number of two- or three-storied dwellings which constitute the living quarters of the students and of the workers, and a large building containing a club-room, a library, a reading-room and a fair-sized theatre.

The whole settlement, which is about five miles from a railway station, and is electrically lighted and centrally heated, gave me the impression of something exotic and foreign. Whether this was due to the character of the buildings, to the tropical heat and the sparsely clad figures of the workers with their wide-brimmed straw hats, or to the unfamiliar tractors and other machines which were setting off in various directions, I cannot exactly say; but it all seemed to me much more like a film of life in the Wild West than a piece of real Russia. Another thing which struck me particularly about this settlement was the youthfulness of

the entire personnel. The director, the administrators, *i.e.*, the engineers and instructors, as well as the students and workers—all were under thirty. Eighty-six percent of the students were either members or candidates for membership of the Communist Party or of the Konsomol; and the atmosphere of the place was one of youthful assurance and enthusiasm for the cause. In all the places I visited in Russia this summer, I saw nothing to approach this farm in efficiency, strict discipline, natural friendliness and camaraderie.

Can the State Farms Pay?

The question to which I tried to get an answer on my visit to these two Soviet farms was, whether mechanized large-scale agriculture in Russia was likely to pay. Can these farms produce grain more cheaply than the peasants? And can grain so produced compete

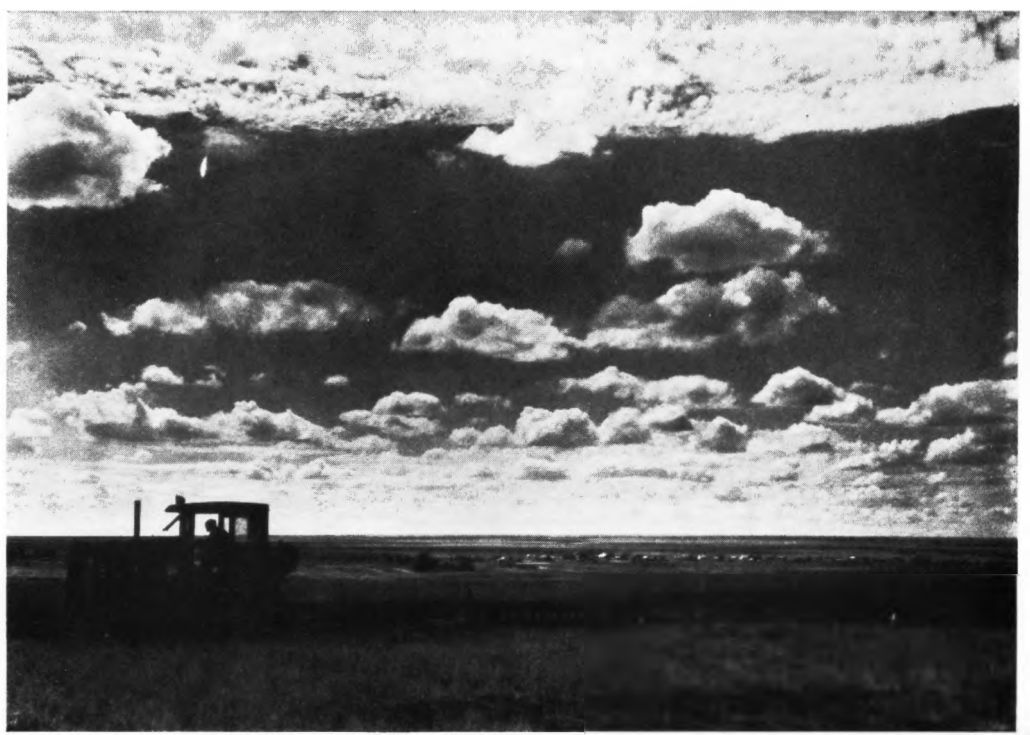
in the world markets? The answer I got both at "Farm No. 2" and at the "Gigant" was a definite and emphatic "Yes." These are the figures for "Farm No. 2":—Average yield of wheat per hectare was, in 1929, 52 poods; in 1930, 70 poods (equals 17 bu. per acre). The peasants' average yield for the two years was respectively 40 and 42. The cost was, in 1929, 112 kopeks per pood (equals 94 cents per bu.); and in 1930, 80 kopeks (equals 71 cents per bu.). The figures of the "Gigant" farm are still more striking. The yield, in 1929, was 54 poods; in 1930, 65 poods. The cost, in 1929, was 88 kopeks per pood; and in 1930, 62 kopeks (equals 51 cents per bu.). As to the future, while M. Margolin, the director of "Farm No. 2," would not commit himself to anything save a general statement that cost of production could and would be brought down, M. Bogomolkin, the director of the "Gigant"

farm, unhesitatingly declared that he could promise that by 1932 the cost would be reduced to 45 kopeks per pood (equals 37½ cents per bu.).

I need hardly point out that these figures, as given to me, fail to represent the full cost of production, for items (*e.g.*, rent and interest on capital) which would enter into the calculation in any ordinary capitalist-run farm are here left out of account. It must also be realized that calculations of cost on a State Farm must in the nature of things be something of a novelty. The production of grain under the mechanized system is so vastly different from that of production by the peasants that calculation of cost has also been revolutionized. These are the chief items which the Grain Trust enumerates in calculating the cost of wheat in 1930. Machines and equipment are put at 34 percent, petrol and oil at 17 percent, seeds at 31 per-

cent, wages at 28 percent. We have another estimate. According to an investigation made by the Institute of Large Scale Cultivation the average cost of wheat per hectare on eight tractor stations is made up of the following items: repair of machines 10 percent, petrol and oil 29 percent, depreciation of machines 23 percent, wages of tractor drivers and administrators 22 percent, general expenses 16 percent. The second estimate leaves seeds out as it appears on both sides of the account. This shows clearly that wheat is now being produced in the factory and on the oil fields as much as on the land and the cost of wheat will therefore depend on the general reduction of cost of industrial production. But, while the exact cost of wheat on State Farms must for the present remain somewhat uncertain, one thing is, in my opinion, definitely established, namely, that grain produced on these farms is already cheaper than

that produced by the peasants, and is likely in the future to be cheaper still. That the quality of the grain is considerably better is recognized by experts (native as well as foreign) and is reflected also in the price paid for it by the Khlebocentre, or Grain Center, the monopolist buyer for the Government. In the extensive tour of Russia, which I made in 1930, I encountered only one farm in the Northern Caucasus, the "Seattle" Commune, a Commune started in 1921 by Finns repatriated from the United States, the wheat of which fetched a higher price than that of these two State Farms. "Farm No. 2" got 175 kopeks per pood, the "Gigant" 128 kopeks; and the Seattle farm got 193 kopeks ($1.60 per bu.), as against an average price of 120 kopeks ($1.00 per bu.) paid to the peasants. I may add that the grain produced on these farms is all selected and carefully graded. So far, the whole of the crop



SOVIET FARM, NO. 2 — 1930

Bourke-White

which is said to be of good weight and drought-proof is marked "not for sale," but will be used as a "seed fund" to be distributed to the collective farms and to the peasants in exchange for their own inferior "victualling" grain.

The general impression, however, produced on me by what I saw of the "Gigant" farm, the biggest single farm in the world, was not so favorable as that I derived from going over "Farm No. 2." I doubted whether the administration was efficient, and I disliked the general atmosphere of the place. And when later I compared my own views with those of other recent visitors to the "Gigant," I found that our common impression was that thoroughness was sacrificed to hustle, that the farm was overstaffed, and that the average breakage of machines seemed to be too high.

The area of the "Giant" is really staggering. It contains no less than 220,000 hectares of

which 173,000 were sown this spring. To give an idea of its size it is sufficient to say that it measures 84 kilometers (50 miles) from north to south and 62 kilometers (40 miles) from east to west. The harvest this year was over 7,000,000 poods of first grade wheat, with nearly 300,000 poods of second grade. The number of workers, including drivers of tractors and combine-harvesters and the mechanics employed in the repair shops, is 2,000 permanent and an additional 4,000 taken on at harvest time. The total population of the "Giant" farm, including families of the workers and members of all sorts of subsidiary staffs, is 17,000. The "Giant" farm is also a paradise of young people. Ninety-five percent of the population is under thirty. But the percentage of Communists or of Komsomol is much less than at "Farm No. 2," only about 1,300 persons belonging to this political class.

When, in 1928, the Sovhosy were started, they had a definite function to perform—to supply the State in three or four years' time with an amount of grain equal to that which the Kulaks produced in 1927, that is, with approximately 100 million poods. But such has been the impetus of the drive, in respect of investments, tractor-power and area of land, that by the spring of the present year the program outlined had been outgrown; while the official estimate is that the sown area of the State farms will yield next year over 200 million poods. Apparently this success has changed the perspective of the Government, and has induced it to regard this method of purely State cultivation as an important element in the solution of the complex agricultural crisis. The result is that now the most complicated problems, such as that of repairing the deficiency of meat, milk and vegetables, and that of raising

the production of cotton and flax, are all expected to be solved by the creation of State enterprises similar to the Grain Trust. Consequently, huge companies have already been formed such as the "Skotovod," the Cattle Breeder, the "Svinovod," the Pig Breeder, the "Ovzevod," the Sheep Breeder, the Flax Grower, and the Cotton Grower.

III

"COLLECTIVIZATION"

THE experiment of collectivizing agriculture is only two years old,* and the spring sowing of 1930 was in reality the first collective effort on a large scale. And yet the experiment is already extremely rich in dramatic episodes symptomatic of its alternate ebbs and flows of popularity. Cooperative farming grew out of propaganda started by the Government with a view to securing more and better crops. "The Khlebo-

*Attempts to organize collective farms (Kolhosi) and agricultural communes were made soon after the Bolsheviks came into power. They relied entirely on the principle of coöperation and must not be confused with the movement which started in 1928. One of these earlier collective farms would consist of not more than forty householders; and, consequently, under this system anything like large-scale cultivation was out of the question; nor of course was mechanization possible or even attempted.

centre," the Department which deals with the collection of grain, and the "Semenovod," the Department responsible for improving, grading and selecting seed grain, had for some time been endeavoring to establish contractual relations with the peasants with this object in view. As an inducement they offered to provide them (preferably whole villages) with selected seeds, agronomist aid, and implements including tractors, if they agreed to sell to the Government, at a fixed price, all their surplus grain. They also recommended, if they did not stipulate, that holdings should be pooled for purposes of rational cultivation. A monetary advance on the contracted grain was also provided by the scheme.

These methods, which go under the name of "Contractation," were responsible for the formation of thousands of "Grain Associations," most of which, in course of time, developed into

Kolhos proper. These grain associations, as well as Kolhos formed in 1927, embraced usually only fifteen or twenty holdings and, therefore, were too small to be mechanized—their motive power remaining the horse. The attempt to introduce tractors and complicated agricultural machines into these farms was disappointing. It became increasingly clear that before tractors could be employed on a collective farm it must multiply its acreage many times and absorb dozens of villages. This difficulty, although not insurmountable, seemed hardly likely to be overcome in the near future, when suddenly an experiment made on the Shevtchenke Farm near Odessa, demonstrated that the manager, A. Markevich, had grappled successfully with the problem.

The Shevtchenke Farm was a State Farm—furnished, like most of them, with an abundant supply of tractors and agricultural implements.

In the spring of 1928, Markevich, finding that the 100 tractors at his disposal were only in incomplete use, proposed to the neighboring villagers that they should hire some of them to till their land if they agreed to pool their holdings and pay 25 percent of the harvest to the farm. In the first year only nine whole villages out of 26 which received his invitation and some holders in six others accepted Markevich's offer; their joint area under cultivation was over nine thousand hectares. In the autumn of the same year 16 whole villages and holders in ten others, with a joint area of 24,000 hectares, entered into the scheme.

The success of Markevich's experiment consisted in his discovery that tractor energy applied to large scale agriculture can be supplied from a central station just as easily as electricity. This simple discovery, and its implications when properly understood, were hailed

with the greatest enthusiasm by the Bolsheviks, who believed that the high road to Socialist agriculture had at last been found, and, indeed, it is more than probable that Markevich may take his place in the history of Socialism by the side of the "Rochdale Pioneers."

With their customary vigor and quickness of grasp, the Bolsheviks have since concentrated all their energies in organizing tractor stations and mobile tractor "columns," and have planted them in all suitable areas.

Like every other section, the agricultural section of the Five Year Plan was drafted in a spirit of complete optimism; for it contemplated the farming on coöperative lines of no less than 22 million hectares of land by the end of 1933. When this program was promulgated it excited derision outside the party and was stigmatized as Utopian. Inside the party

it was severely criticized by the Right Opposition and attacked as wildly optimistic.

Bukharin, Tomsky and Rykov refrained indeed from attacking collectivization as a policy; but they warned the Party that the Kolhosi could not possibly develop quickly enough to become any considerable factor in solving the grain problem. Only the poor, in their view, that is, peasants who possessed no capital resources, were likely to be attracted to the new scheme, and that mainly because of the financial backing given to it by the Government.

The Seredniaks, or "middle-size" cultivators, it was believed, would stand aloof from the plan, because they would be naturally unwilling to sacrifice their comparative prosperity to the common good. The plan would, therefore, result merely in wasting enormous sums without either raising production or bringing nearer Socialism in the villages. Yet, contrary to all

anticipations, the Seredniaks were attracted by the Kolhos movement and joined it in considerable numbers, especially in the areas of predominant grain cultivation. Whether the prospect of raising the level of production by means of tractors and machines appealed to them, or whether they were scared by the growing insecurity of their own position between the Bedniaks and the Kulaks is not quite apparent. To remain neutral in a situation in which the Bedniaks appeared as an organized force supported by the full administrative, economic and political power of the Government had become increasingly difficult and indeed dangerous. To join the Kolhosi was, at any rate, safe, and promised both economic and social advantages. Whether one takes the number of Kolhosi organized in the summer and autumn of 1929 or the amount of land, or the number of holders included in the collective farms, one cannot

but conclude that the movement made an immediate appeal not only to the Bedniaks but to the Seredniaks. By the autumn of 1929 at least half of the cultivated area of Russia was registered as belonging to the movement. As facts which were divulged later prove, this sensational growth of the Kolhos scheme was partly only nominal. But despite the rashness and rapidity with which the jump from individual to collective farming was being effected, despite the fears which could not but be entertained of the instability of such a revolution, the initial success of the Kolhos can only be described as startling.

The Central Committee of the Communist Party seemed to be greatly impressed by this; for at two consecutive plenary sessions, one held in November, 1929, and the other in January, 1930, they passed resolutions expressing not only their delight in the victory of collectiviza-

tion, but their conviction that the scheme could be speeded up. Consequently, they divided the country into three areas, (1) that of predominant grain-cultivation, (2) that of intensive crops such as flax and cotton, and (3) those parts of the country which are mainly grain-consuming. The first of these areas was to be completely collectivized by the end of 1931; the second by the end of 1933, and the rest of the country by 1935. At the same time, they declared that the "remarkable success" of the Kolhosi, and the possibility of their becoming the chief sources of grain supplies, justified a change of policy towards the Kulaks, who now, instead of being crippled financially, were to be economically and administratively destroyed or, as the phrase goes, "liquidated." This new policy was to be applied in exact proportion to the intensification of the scheme for collective farming. That is to say, from "areas of uninter-

rupted collectivization" the Kulaks were to be expropriated; while in other areas they were for the time being to be left alone.

The resolutions passed by the Central Committee were promptly regarded by the local Kolhos and Communist agents as an additional encouragement to an energetic pursuit of the policy of collectivization, which, translated into action by these ardent propagandists, became a drive for the completion of collectivization by the end of 1931, or even earlier, not only in some of the most promising, but if possible, in *all* areas. Moreover, the local agents aimed not only at extending, but at *deepening* the drive, that is to say at giving it a deeper tinge of full-blooded Communism. They at once proceeded to violate the voluntary character, the fundamental basis, of collectivization by treating all peasants as Kulaks who refused to join the movement; while they prosecuted the campaign

against the Kulaks and all peasants whom they stigmatized as Kulaks with such vigor that, not content with confiscating their property, they arrested and banished them and deprived them of voting rights.* They went further, and converted many of the Kolhosi into Communes with the result that cows, sheep, pigs and even fowls which in a Kolhos are recognized as individual property, were forcibly socialized; while in accordance with this new interpretation of the meaning of "uninterrupted area of collectivization" they prohibited all private trading in the villages or between villages.

*The number of Kulaks who were expropriated is obviously impossible to obtain. But there is an indirect way of forming some idea of the number. In the report made by Stalin to the last Congress of the Communist Party he stated that the confiscated property of the Kulaks which had been handed over to the Kolhosi amounted to 400 million roubles; while on the same occasion M. Yakovlev, the Commissary for Agriculture, declared that this confiscated property constituted 15 percent of the total capital of the Kolhosi.

The Initial Failure

Nor was this drive limited to the economic sphere; it involved the peasants in the full consequences of life under Communism. In such an atmosphere the closing of churches and the pulling down of church bells became epidemic; and, strangely enough, this zeal for instant collectivization was shown not only in predominantly grain-producing areas, where mechanization was applicable, but also in areas of highly intensive culture such as those of flax, beet and cotton, where labor is the main factor, and not machines, and even in the backward national republics, where farming is deeply primitive and individualistic. All this created resistance everywhere, with the result that official optimism gave way to anxiety and alarm.

Secret instructions were accordingly sent to the local Communist agents to moderate their

zeal and to adopt a less provocative policy; while in order to pacify and to reassure the peasants it was decided to make a public declaration of policy, which took the form of an open letter from Stalin, entitled, "Dizziness from Success," in which he denounced the stupidity and arrogance of the local Communist agents, who had become so intoxicated by their triumph that they had lost all sense of reality.

Speaking with the authority of the leader of the Communist Party Stalin made a severe attack on the perverse policy of local executives and called for an immediate return to sanity. A strongly worded manifesto to the same effect was addressed by the Central Committee of the Party to all republican, regional, and provincial committees. And then were published a series of Government enactments in which the peasants were told that all injustices which they had suffered should be repaired,

that the basis of collectivization must remain voluntary, that if they had been compelled to join the Kolhosi they could leave them with all their possessions, while if they preferred to remain they could reclaim them.

The sensation produced by the publication of Stalin's letter which appeared in every newspaper in the country save in certain districts where it was suppressed, was enormous. It was reprinted in innumerable cheap editions (sold for one or two kopeks), which also contained the Central Committee's manifesto and the authorized constitution of an artel. Its circulation is said to have reached the unprecedented figures of 18,000,000 copies.

The effect of the letter and subsequent decrees of the Government was immediate. Peasants who had been forcibly enrolled in the Kolhosi left in their thousands; while many registered Kolhosi were discovered to be "paper"

Kolhosi or "dead souls." Trading, local and between villages and towns, was reëstablished. Many churches, closed previously, were reopened and restored to believers; and Socialized cattle and other individual property were promptly decollectivized. As a consequence of this purge the Kolhos movement suffered a drastic setback. In some areas collectivization, which had previously incorporated 50 or more percent of the peasants, fell to about 3 to 7 percent. Even in the southeast of Russia and in other areas, where collectivization had been almost completed, it was reduced to 25 percent.

For all this, Stalin's dramatic intervention must be acknowledged to have been an astute stroke which saved the situation for the movement. It cleared the air, and killed the germs of what might have been a serious revolt. But it needed to be supplemented by positive enactments in order to encourage those who adhered

to the movement and still more those who were inclined to rejoin it.

Revised Collectivization

In a number of further decrees published early in April, the Government announced that new privileges were to be granted to all members of the Kolhos movement. These privileges were of three kinds. Taxes and fines were to be abated or remitted. Members of Kolhosi were now to pay much less taxation than individual peasants of the same category. All arrears of taxation which had accumulated, all fines which had been imposed on them by summary administrative action, or by a court of law were to be remitted. And all pending actions for the recovery of fines were quashed. Secondly, relief was to be given in aid of improvements in agriculture. All areas freshly brought under cultivation by members of the Kolhosi were to

be free of taxation for two or four years. And thirdly, special efforts were made to conciliate the Seredniaks, who resented the arrangement by which the Bedniaks, who contributed little or nothing to the capital of a Kolhos, shared equally with them in the revenue. It was now decided that 5 percent of this gross revenue must be divided among members in proportion to their contributions to the capital of the Kolhos. At the same time it was declared that the Government had determined to credit the Kolhos movement with the additional sum of 500 million roubles.

These lavish concessions to the peasants were prompted, of course, by the imminence of the spring sowing. The position, indeed, was menacing. Such of the Kulaks as had not been "liquidated" were naturally indisposed to sow a larger area than would suffice for their own needs. Such of the Seredniaks as had not

joined the Kolhosi were probably equally indisposed. But even had they been disposed they could have done little. The enlarged area which they could have sown had not been ploughed, since all the tractors were employed on the Kolhos fields. Moreover, the Government, which had given the Collective Farms selected seeds and other economic aid, did little to encourage the sowing of the individual farmers. Consequently, when it was realized that the Kolhos movement was weakening, the spring sowing campaign, on the success of which so much depended, seemed to be in considerable danger. But the prompt and determined action of the Government in making the concessions I have enumerated retrieved the situation. In the new atmosphere created by them, the campaign for sowing started auspiciously and soon became a campaign for reabsorbing the former members of the Kolhos movement. The result

of both campaigns proved decidedly satisfactory. Despite the fact that most of the Kulaks were driven out of the field, or had voluntarily reduced their holdings, the area sown increased by something like 7 percent. The Collective Movement soon showed signs of considerable revival and now includes no less than 25 percent of the peasants throughout the Union. In the purely grain-producing districts, the South Eastern part of the Ukraine Steppes, the Northern Caucasus and the Volga areas, collectivization embraces 48 percent of the cultivators. In the more industrialized part of the Ukraine and in Central Russia, the percentage reached is 25; while in the so-called grain-importing lands of the country, that is to say in Central and Northern Russia, it is 8.

When I visited several Kolhosi in 1930 during the threshing season I carried away an impression that the need for joint effort and

for large-scale cultivation seems to have taken deep root in the minds of the peasants. My observations, I should add, were made in such predominant grain-producing areas as the Southern Ukraine and the former Don Cossack lands. In one respect these areas must be considered unfavorable to an experiment in collective cultivation, for the population has a decided bias towards individualistic farming. This is especially true of the inhabitants of the Don Cossack lands, where many of the peasants used to live and to work individually on the so-called Khutor, or single farm. But, technically regarded, they are most favorable for such an experiment, if devoted to the production of a single crop, wheat, rye or sunflowers. Moreover, the prairie-like configuration of the land lends itself admirably to the employment of mechanical traction.

Kolhosi and Their Results

Speaking of this part of the country, I can summarize the situation as follows: On the technical side the progress of the collectivist movement seems considerable. I mean that the industrialization and mechanization of agriculture seems to be accepted by the peasants, as is also the need for joint effort and the pooling of resources. How far the economic and social consequences of collectivization are acceptable to the peasants only time can show. At present a considerable divergence of interest, mood and sympathy is quite noticeable. The questions which are today exciting the Kolhosniks and which are likely to continue to excite them are those connected with the division and organization of labor and the distribution of profits. The idea with which the Kolhos movement started, that all members should be equal, has

broken down. This is conclusively proved by the Government's decision, already mentioned, to permit a 5 percent dividend on capital. But quite apart from this, a Kolhos village is still a village composed of holders more or less prosperous and more or less industrious. Some have got cows, pigs, fowls, and some cultivate considerable vegetable gardens on which they grow melons and cucumbers. Some, too, go to the towns as seasonal workers and earn good money. But apart from the inequality in individual possessions, there is a more important inequality inherent in the constitution of a Kolhos. The basis for the distribution of profits is the quantity and quality of labor contributed. And while every effort is made to give every member an equal chance, the best-paid jobs inevitably go to the most skilled men. In general, work is organized and paid for on a five-grade tariff, the basis of which is a 10-hour "labor day."

To the first grade belongs such simple work as driving a horse and wagon, carting manure or hay, looking after cows or pigs. In the second grade, which in wages represents 1.25 of the first, are included binding sheaves, planting potatoes and weeding. The third grade, which is remunerated at the rate of 1.50 of the first, embraces ploughing with horses, sowing by hand or with a machine, and managing a storehouse. To the fourth grade, which is 1.75 of the first, belong the work of the thresher, carpenter, cobbler and blacksmith. In the fifth grade, of which the coefficient is 2, are placed the work of the chairman of a Kolhos, of the chief bookkeeper, the tractor drivers, and the agronomists.

What a "labor day" actually represents is only discovered after the harvest has been reaped, and is calculated in the following way. From the gross revenue there are first deducted debts, general expenses, seed grain, the amount

of grain needed for the support of children and persons unable to work, for cultural requirements, and for the 5 percent bonus. The rest represents the amount available for distribution. This is divided by the registered number of "labor days." The result will express in grain the value of a "labor day" of the first grade.

The basis on which the work of a Kolhos is organized and still more the basis on which wages are calculated must inevitably give rise to a good deal of irritation and is bound to accentuate inequality. But the divergence of opinion inside the Kolhos is not only in respect of property and of the division of profits. Here, as everywhere else in present-day Russia, the real and outspoken antagonism is that between the young and the middle-aged. The older people look at the Kolhos from a purely economic point of view, and their attitude towards it will in the end be decided by its

economic advantages or disadvantages. It may be assumed that the advantages of the Kolhos will have to be very considerable to reconcile them to its encroachments on their social, religious and family life. The young people, on the other hand, are mainly attracted by the changes in social and family relations which the Collective Movement entails. Even the economic side, in which on the whole they are less interested, is valued by them as helping to liberate them from parental control. The machine with which, for the first time, they have come into contact has seized their imagination and has given them the vision of a new epoch.

Tractor Stations

To realize how machines are affecting the whole attitude to life of the younger generation in the villages one should spend a few hours in a "Tractor Station." A village lad need not

now migrate to the towns to get into touch with the ideas and technique of the industrial world. The whole apparatus of the industrial world comes to him with the tractor. The primary task of the "Station" is to provide the necessary mechanical energy for the ploughing, sowing, reaping and threshing of the Kolhos crops. But soon it becomes the source of a new attitude to life. It not only creates new values in the purely agricultural domain, but is the center of a cultural upheaval. The "Station," with its repair shop, becomes a center from which radiate all sorts of activities that appeal to the young. It teaches the boys to produce electric light; it enlists a voluntary fire-brigade to which it lends its motor lorries; and it organizes courses for the "liquidation of illiteracy," for tractor and motor driving, for teaching stoking and the use of the new "milkers." One "Tractor Station" which I visited at Shkurinsky had

even installed pumps for the irrigation of the local market gardens, which contain 210 hectares, and I was told that 250 boys and girls gladly volunteered for service on this work. But the "Tractor Station" provides amusement as well as instruction. The Shkurinsky Station, for instance, had eight radio and cinema moving platforms, which are regularly sent to give performances in all the neighboring villages.

Losers and Gainers

The struggle between the younger and the older generation is probably only in its initial stage. All the evidence, however, goes to show that youth is determined to break with the traditional mode of village life and, incidentally, with a good many of the more irksome family ties. One of the most fruitful sources of dissension is the question whether wages should be paid in the old-fashioned way to the parents

or directly to the boys and girls themselves. The young people want to receive the money and to spend it as they like; and the officials of the Kolhos are in most cases sympathetic to this demand. I remember meeting one of the employees of a Kolhos dairy farm—a man about 50—who told me that his only complaint against the new movement was that it forbade him to claim his daughter's wages. And this was a substantial grievance: he declaimed against it for quite an hour.

In all the places I visited I was told that there could be no doubt of the increase in production which the Kolhosi had effected. In the first place, the assistance of tractors has made it possible for a Kolhos to cultivate a larger area than its members would have done if they had been compelled to rely on horse traction and their individual implements. According to official statistics, in 1929 individual peasants

TRACTORSTROY, STALINGRAD — 1930

Bourke-White

who are now members of the Kolhosi cultivated 24 million hectares. In 1930, under the collective system, they cultivated 35 million hectares, an increase of 45 percent. (Part of this increase is, of course, the appropriated Kulak holdings.) Still more advantageous has the adoption of the system proved if one considers the yield per hectare. On the average this is about 54 poods (13 bu. per acre), or 10 poods more than was produced by the individualist holders. Apart from deeper ploughing this is due to the selection of seeds and to the better timing of all operations. On the collective farms, thanks to the use of the latest drill ploughs, the spring sowing was finished in 11 days; while on the individualist farms it dragged on for nearly a month.

When one considers the economics of a Kolhos, a mechanized large-scale farm, one realizes at once that the Bedniaks, the poor peasants,

who have very scanty resources, have much to gain from its permanent success. But the gain of the Bedniaks is not in itself sufficient to assure this success. The Kolhos movement could never have attained its present dimensions without the participation of the Seredniaks, the great body of middle peasants. In the same way, it will never prove an economic success unless the Seredniaks can feel definitely that it is improving *their* position. Whether the Seredniaks will be satisfied with their position under it, it is too early to say. I can only assert that the Government seems to be confident that the Kolhosi are benefiting the Seredniaks no less than the Bedniaks. M. Yakovlev, the very able Commissar for Agriculture, estimates the economic results of the movement as follows: "The increase of production in a Kolhos," he says, "resulting from the enlargement of the area under cultivation and from the in-

creased productivity of labor, is in most cases so big that it is sufficient to raise the income of a Bedniak to the level of the average Seredniak and to increase the income of a Seredniak. . . . The income of a Seredniak family in a Kolhos is larger than their income last year; while the income of a Bedniak family is larger than that of a former Seredniak family."

This is the most explicit statement as to the relative position of the Bedniak and of the Seredniak inside the Kolhos on which I can lay my hands. It is carefully guarded and is far from being dogmatic; not, in the nature of things, could it be conclusive.

APPENDIX

I. PERCENTAGES OF COLLECTIVIZED HOLDINGS

All figures relate to June, 1930

Republics	*U.S.S.R.*	*Russia Proper*	*Ukraine*
Years			
1929	3.9	3.7	5.6
1930	24.1	19.9	88.8

II. PERCENTAGES OF COLLECTIVIZED HOLDINGS IN THE PREDOMINANTLY GRAIN PRODUCING AREAS

Areas	*U.S.S.R.*	*Northern Caucasus*	*Lower Volga*	*Middle Volga*	*Black Soil Belt*
Years					
1929..	5.6	7.3	5.9	3.9	3.2
1930..	38.8	55.2	34.8	20.4	15.1

III. AVERAGE SIZE OF COLLECTIVIZED FARMS

Areas	*Number of holdings per one Kolhos*	*Average area (hectares) per one Kolhos*
Middle Volga ...	76.7	595.4
Lower Volga	321.1	3,246.4
Northern Caucasus	222.5	1,779.0
U.S.S.R.	92.5	480.3

IV

THE STOCK CRISIS

"THE great problem—that of grain—has been solved. Now for the solution of the meat and dairy problems." Such is the current talk in Communist circles. These problems are, indeed, very urgent—probably more acute than the grain problem ever was. In the first place, the number of livestock, although increased after the Civil War, has never reattained the pre-war level; and secondly, alike as meat producers and milk producers, the cattle have always been inferior. Moreover, since 1928 a fresh diminution of the numbers has taken place. How great this diminution was can be gathered from the following figures:

	1928	1929
Horned cattle	70,667,500	67,230,600
Cows (only).	30,754,500	30,338,000
Sheep	133,592,300	132,758,800
Pigs	26,120,000	20,502,000

The present situation is hard to state, since the figures for 1930 are not available. But that these will fall very considerably below the 1929 figure is generally accepted. It is officially stated * that between March, 1929, and March, 1930, the slaughter of cattle was catastrophic. Horned cattle decreased by one-fifth, cows by one-eighth, sheep by one-third, and pigs by two-fifths.

The cause of this epidemic of slaughter is known to have been the result of the drive to collectivization, and of the anti-Kulak campaign. The attempt to socialize livestock was met by the peasants in this way. It is obvious

* By M. Yakovlev, Commissar for Agriculture, at the recent Congress of the Communist Party at Moscow.

that the Kulaks killed off their cattle because they could not get a fair price for them in the atmosphere created by the Government's determination to "liquidate" their owners; while the poorer peasants killed theirs as a protest against the attempts to include these animals in the scheme for collectivization. When, in March, 1930, the Government became alarmed at the situation, and made frantic efforts to save it, the destruction had already been effected. The chronic deficiency of meat and dairy produce in the country became a famine. The question now is that of re-stocking the country, and of creating new sources of meat, milk and butter.

Meat and Milk Shortage

Generally speaking, the cattle problem is similar to the grain problem. That is to say, there is not only a deficiency of production, but a very acute deficiency of a marketable surplus.

Even when the number of cattle was increasing and should have been sufficient for the regular supply of the market with meat and milk, this supply was badly organized. For instance, in the autumn, after the work on the land was over, the peasants would drive off their cattle to the market to save themselves from having to feed them during the winter. The markets would then be swamped with cattle; and this period of artificial plenty would be necessarily followed by one of artificial scarcity. The problem then today is not only that of raising the level of production, but of ensuring a regular supply of meat to the towns.

The Government seems to be convinced that the radical solution of the meat and dairy problem must be found in the organization of a collective system of cattle-breeding, and in the creation of large-scale State cattle farms. But even if the best system of stock-breeding be

adopted, it will take years to increase the stock of cattle to the number required. The alternative, the importation of cattle, is obviously excluded. The only way, then, of improving the meat and milk supply is to increase the quality of the existing stocks. This question is increasingly engaging the attention of the Government, which has now adopted a comprehensive plan for the increase and improvement of fodder supplies. It is the lack of pasture land, the absence of adequate fodder, that has impoverished the stock of cattle, both in numbers and quality. Russian cattle used to be fed upon hay and straw, with a very small addition of more intensive, juicy foods. It is recognized that a change of diet is of paramount importance, and that the animals' food should be a mixture of juicy and dry fodder in the proportions of two-thirds of the former, and of one-

third of the latter—an exact reversal of the conditions prevailing today.

This revolutionary alteration of diet will involve tremendous changes in the area under cultivation, and is bound up, of course, in the general improvement of agriculture. The doubling of the production of meat and milk—the minimum program—can only be carried out by the devotion of at least 40 million hectares to the cultivation of special fodder crops, such as corn and potatoes, and special kinds of grass, beet and beans. Further, there is the most urgent need of a general improvement of pasture lands, which are totally wild in Russia, and have never been cultivated even in the most primitive way. But the question of a change of diet for cattle is a matter not simply of growing the crops, but of transforming them into intensive and fattening fodder. This has been best effected in the last ten years or by the silo process,

which consists in storing a mixture of dry and juicy fodder in high cemented towers in which it is subjected to a mild fermentation. The product, a sort of pickled vegetable compost, is stimulating and intensive fodder which has been found very acceptable and fattening to cattle in Canada and the United States. Accordingly, a lightning-like campaign has been going on in Russia for the building of thousands of silo towers, and of tens of thousands of silo trenches.

Socialized Livestock Breeding

The attempt is now being made to interest the members of the Kolhosi in adopting cattle-breeding as an important section of their economy. This is being done in two ways, by propaganda and by government subsidies. This year's appropriation for this purpose is 170 million roubles, which will be spent mainly on

building pig-sties and on acquiring a stock of milch cows and pigs. But, even if the change in the fodder supply is effected immediately, the meat position of the country can only begin to improve in two or three years' time. In the search, therefore, for some immediate relief, the Government is devoting a good deal of its immediate attention to the breeding of pigs, which are much more prolific than cattle, and can be relied on to be ready for the market in about 14 months as against three years required by cattle. The pig is now regarded by the Bolsheviks as the potential meat factory; and the slogan heard on every side is "Breed pigs!"

The Russian peasants never had any instinct for breeding cattle, and whether those organized in collective farms will develop such an instinct time alone will show. Recognizing this, and stimulated by the success of the State grain farms, the Government has decided to

concentrate largely on the creation of State-owned and State-managed large-scale stock-breeding farms. These farms will be under the management of three trusts, called respectively "The Cattle Breeder," "The Sheep Breeder" and "The Pig Breeder." The first has been given a stock of over half a million horned cattle, to be increased during 1931 to over 3 millions. The area of this trust consists of 15 million hectares of pasture lands, mostly situated near existing State grain farms, the idea being that the trust could utilize some of their enormous stocks of straw. The Sheep Breeder has been given 11 million hectares, situated mainly in the trans-Volga regions, and in some of the Eastern Republics of the Union. The Sheep Breeders' stock is at present 2,600,000 sheep, which it is expected to raise to nearly 5,000,000 during 1931. These animals will be bred not only for meat but for wool. The State farms

devoted to pig-breeding are at present the worst off of all the State stock farms. There are 250 of these farms; but their stock is given as 85,000 only, and the area allocated to them, too, is only 500,000 hectares. At present, the activities of these State farms are being mainly confined to the erection of cow-sheds, sheep-folds and pig-sties, and to the acquisition of stocks.

Apart from a limited number of sheep imported from Australia, and of pigs imported from England, the stocking of these farms is being effected mainly by the acquisition of cattle inside the country. The decrease of stocks has rendered the acquisition of millions of head of cattle no easy task; and the consequence of such extensive stocking for breeding purposes exclusively is bound to make the meat situation still more acute for the next two years at least.

The efforts being made to improve the milk supplies of the country are mainly the business of the Kolhosi, which now possess a collective stock of over a million cows, apart from the animals belonging to individual members. This stock is regarded as the source of milk supply for the towns; and the Government is insisting on the necessity of increasing not so much the numbers of cows as the yield of milk per cow. This yield was always notoriously low in Russia, a circumstance due not so much to the low breed as to insufficient feeding and the neglect of sanitary conditions. It is hoped that the installation of cows in warmer sheds, and feeding them on silage will result before long in the doubling of their milk supply.

V

FLAX AND COTTON

IN reviewing the progress made by industry in the first two years of the Five Year Plan, the most striking feature to be noticed is the discrepancy between the achievements of the two groups (A and B) into which it is divided. Group A represents "heavy" industries, such as mining, metallurgy, machine-making, transport and power, or, in other words, industry engaged in "producing means of production"; and Group B stands for "light" industries, those engaged in producing consumers' goods. This discrepancy is by no means accidental; it is part and parcel of the Plan. In a program of industrialization which aims above all at rendering the country's industrial development independent of that of a "hostile

world," heavy industries must obviously come first; for only a sufficient supply of coal, oil, iron, tools, and machines will ensure the free and unhampered development of the light industries. Yet, conditioned as it is by the position given to them in the Plan, the retardation of the development of light industries is due in no small degree to lack of raw materials. The textile industry, at any rate, is held up mainly by the lack of cotton and flax. In the summer of 1930, for instance, most of the textile factories were closed for 75 days because the supply of cotton failed.

The question, then, of growing more cotton and flax is one of the most serious which the Union has to face. But this is not simply a matter of enlarging the area in which these crops are grown. As a matter of fact, this area has been considerably enlarged within the last few years. Last year the area under cotton was

already 30 percent above the pre-war level; but the yield was only 2 percent above it. The area under flax has grown less quickly; but it is now at least as large as it was before the war; yet the yield is only 52 percent of what it was then.

These poor results are attributed by the Government to the disabilities under which the system of small cultivation labors; and consequently the remedy proposed has been the creation of large-scale cultivation of such crops by the aid of a mechanized technique. In other words, it is proposed to solve the cotton and flax shortage by the establishment of huge State plantations and by the assembling of the small holding devoted to the cultivation of these crops into cotton and flax Kolhosi.

This year, out of 1,760,000 hectares under cotton, 200,000 were cultivated by tractors; and the results are considered by the Government highly satisfactory in two respects: first,

there has been a considerably greater yield on these fields; and secondly, this has stimulated the interest of the Dakkhans, the Turkestan peasants, in the system of intensive cultivation. The program, therefore, outlined for 1931 is to plough and sow over 1,000,000 hectares with the aid of tractors.

The cotton problem in Turkestan is largely involved in the general grain-growing problem. In order to give Turkestan the importance it naturally has as a cotton-growing country, it is necessary to release it from the need of growing its own supplies of wheat and rye. Since the outbreak of the Revolution and the consequent dislocation of grain supplies, the natives of the country have had to grow grain instead of cotton. The slogan now is: "No more grain-growing in Turkestan." So, the supplying of that country with a sufficiency of grain, a large program of irrigation, under the supervision of

high American experts, and the buying up in bulk by contract of the whole of the cotton crops are the chief measures which the Government's advisers are adopting in solving the cotton problem. But, apart from these measures, they are making an attempt to grow cotton on a large scale, on unirrigated areas, as a pure gamble. They attempted this year to cultivate by the aid of tractors 150,000 hectares of such land in Middle Asia; and the results of the experiment are reported to be satisfactory enough to warrant a repetition of the attempt in 1931 on double the area. For the calculation appears to be that even poor crops, produced with the aid of machines on land which requires no irrigation will be worth while.

I mention this novel experiment because it seems to shed an instructive side light on the mentality of the dictators of Russia's economic policy. The mere fact that they are dealing

with vast areas of practically virgin soil seems to inspire them with an enthusiasm for expansion rather than for intensification. This trait, called "Americanism" in Russia, manifests itself in many ways, and I shall have occasion to deal later with the audacious project for moving the wheat belt to the very confines of the desert.

The measures proposed for the increase of the production of flax are similar to those to be carried out for the production of cotton. They can be summarized as follows:

(1) Specialization of certain areas as flax-growing lands.

(2) Organization of flax-growing State enterprises and of flax-growing Kolhosi.

(3) Supplying the flax growers with grain imported from other parts of the country.

Of the success of these measures it is yet too early to judge.

VI

TRACTORS, IMPLEMENTS AND MACHINES

THE value of agricultural machines and implements turned out in Russia in 1930 is likely to reach 321 million roubles.* This means that the present output is more than five times larger than that of pre-war times. In fact, the manufacture of such machines is far ahead of all other industries; and, if the increase continues at the same rate, the output is likely soon to become the largest in the world, even larger than that of the United States.

But quantity and quality are different things;

* It is advisable to point out that, in accordance with a decision arrived at by the Soviet Government the prices of agricultural implements and machines are identical with those included in pre-war catalogues, Russian and foreign. This means that the figures given above, 321 million roubles, are practically pre-war roubles, uninfluenced by inflation.

and the poor quality of the Russian agricultural machines is due partly at least to the fact that the factories have had to be reconditioned to adapt themselves to the new demands introduced by mechanical traction. Up to 1928 all agricultural machine works were equipped to produce only peasant "equipment," that is, only horse-drawn machines. In that year only 3 percent of all machines produced were designed to be used with tractors. This year 24 percent of the machines will be tractor-drawn, while in 1931 the percentage will be 60. This constitutes a very revolutionary and expensive change, for it means that all the equipment of the factories will have to be replaced by new and heavier models. It will also necessitate supplying the factories with different raw materials, with harder steel and stronger wood.

The "Selmash," the huge new factory at Rostov, which I visited in 1930, had to be

reconditioned three times while it was in the course of erection. Devoted originally to the production of horse-drawn rakes and other small machines, it has now finally been equipped for the manufacture of tractor-drawn binders and other reaping machines. In the case of this and other new factories the tractor revolution has caused only loss of money and time. But the reconstruction and the reëquipment of old factories as a preliminary to the production of the most modern models has meant also a decrease in output and very often inferior quality.

Mechanization of agriculture involves, however, not only the production of tractors and complex agricultural machines; it necessitates a constant supply of motor lorries, repair shops, tank stations, grain elevators and machines for sorting and for grading grain, as well as telephones, wireless and a number of other services, such as trucks, caravans, field kitchens.

And every day the industrialization of the countryside is provoking new demands for commodities which cannot yet be satisfied.

The main effort of the Government is, however, the production of tractors. Three new factories for this purpose are in course of erection, at Stalingrad (Volga), Kharkov (Ukraine) and Cheliabinsk (Siberia); while the Putilov works at Leningrad are being enlarged so as to allow for an output of at least 20,000 tractors per annum. The Stalingrad factory, which has just been completed, is considered the largest and best equipped of all tractor factories. Its annual output will be thirty thousand 20 horse power tractors of the International Harvester type. The Kharkov factory, which will open early in 1932, is designed to produce fifty thousand 15-30 horse power tractors; and the Cheliabinsk factory, due for completion in the summer of 1932, is

being equipped for the production of 25-60 horse power "caterpillar" tractors, and will turn out forty thousand of these a year. The "International" type of tractor is to be used on the Kolhosi; while on the State farms and for the breaking up of virgin soil the "caterpillar" will be used.

When these factories are ready and start production, the annual output of tractor power in Russia will amount to over 3,000,000 horse power. The question then arises whether an economic employment of such a power is possible, whether trained men can be found to drive these tractors, and whether enough machines can be turned out for them to drive. The inevitable reply to such questions is that the output, great as it may seem, will soon be inadequate to the growing needs of the country. The Bolsheviks are indeed confident that in three years' time they will have 100 million

hectares tilled by mechanical power. They claim that the collective farms, the State grain farms, the need for an additional 40 million hectares for fodder crops, the cotton, flax and other technical crops, and the projected enlargement of the wheat belt by 20 million hectares of virgin soil will not only absorb the output of tractors but will render it inadequate to the country's needs.

VII

GEOGRAPHICAL REDISTRIBUTION OF CROPS

A REVOLUTIONARY epoch is one in which everything seems possible, from the change of the calendar to the "liquidation" of God. Theoretically, indeed, nothing is too daring or too difficult to be attempted by the Bolsheviks. If anything appears difficult, it is only because it has not been approached in "the Bolshevik spirit." Given will and persistency, the most daring fantasy can be transformed into a reality. If anything goes wrong, it is at once attributed to lack of "activity" and to reliance on the natural run of things. Initiative, energy and persistence are reckoned the certain creators of success. With this boundless faith in the conquering power of energy and attack they are prepared

to undertake the wildest and most difficult tasks.

There are many departments in which this peculiar trait is finding expression; but nowhere is it so clearly manifest as in the Commissariat of Agriculture. And of all the grandiose schemes with which this Commissariat has been identified the most daring is that of attempting to reshape the agricultural geography of the country. That mechanization of agriculture should influence the agricultural zones of the country is natural enough. But what we are witnessing in Russia today is an endeavor completely to uproot century-old divisions of crops. And the most daring and the most fateful is the moving of the wheat belt up to the confines of Asia.

At present, the Ukraine, the Kuban and the Northern Caucasus constitute the main granary of Russia. But it is contended that it is waste-

ful to grow wheat in such areas, which could more profitably be utilized to raise more valuable crops such as soya beans and sunflowers. Wheat, on the other hand, it is claimed, can be grown on areas which are too dry to produce the more intensive crops. Hence the decision to cultivate regions in the trans-Volga district, in Kazakstan and in South-Eastern Siberia. The total acreage of these areas is, in round figures, 400 million hectares, of which less than 35 millions are actually under cultivation. It is now proposed to increase the area under cultivation in the next three years by at least another 20 million hectares, of which 8 millions are to be added in the Volga districts, 8 to 10 millions in Kazakstan and 4 to 5 millions in Siberia.

Crop Redistribution

To realize the magnitude of the enterprise which the young Commissar of Agriculture is

undertaking, it is necessary to remember that most of the areas in question belong to the drought zone, are very thinly populated, and possess a most primitive agriculture. Even M. Yakovlev admits that the scheme *sounds* fantastic. But he is confident that with the help of tractors it can be accomplished. The argument employed by M. Yakovlev when he outlined the scheme at the Congress of the Communist Party and the enthusiastic reception given to it there are so typical of the spirit of Bolshevism that his remarks are worth quoting:

"The key to the solution of the problem," said M. Yakovlev, "consists in the fact that it must be undertaken with a minimum of men and of animals in order to obviate the necessity for keeping large stocks of grain to meet possible failures of crops. This means that the areas will have to be cultivated only by machines, which must be worked to the utmost

limit of their capacity. One man will have to look after 200 hectares. That this idea is feasible was proved by our experience on the State farm, where as many as 210 hectares require only a single man. And this is not the limit. We are not going to stop here. Therefore, if that is so we can solve the wheat problem with only a slight addition to the actual population of these regions. What will be needed is to transfer the people in accordance with the requirements of the plan, and to employ every human power fifteen times more productively than it is employed at present.

"The system to be adopted will be that of tractor-stations and State farms. But the State farm must be different from those we already have. Here we need farms embracing not tens of thousands but hundreds of thousands of hectares. And here we shall have to erect very few and very simple buildings. Or rather the same

buildings will have to serve a vastly larger area. Another essential difference is that the machines employed will have to be less complicated than those used on the State farms. The enlargement of the area should compensate for the low quality of the cultivation. There is obviously a risk of periodic failures of crops. Against such failures in drought zones there is at present no guarantee. But the only guarantee we need is not against occasional failures of crops, but against famine. Our only safeguard will be to increase the area under cultivation as much as possible, and to lay in a sufficient stock of food and seeds to meet such failures. These are the conditions in which this problem will be solved, and the fantasy will become a reality. By the spring of 1933 we shall have an additional 20 or 25 million hectares under wheat."

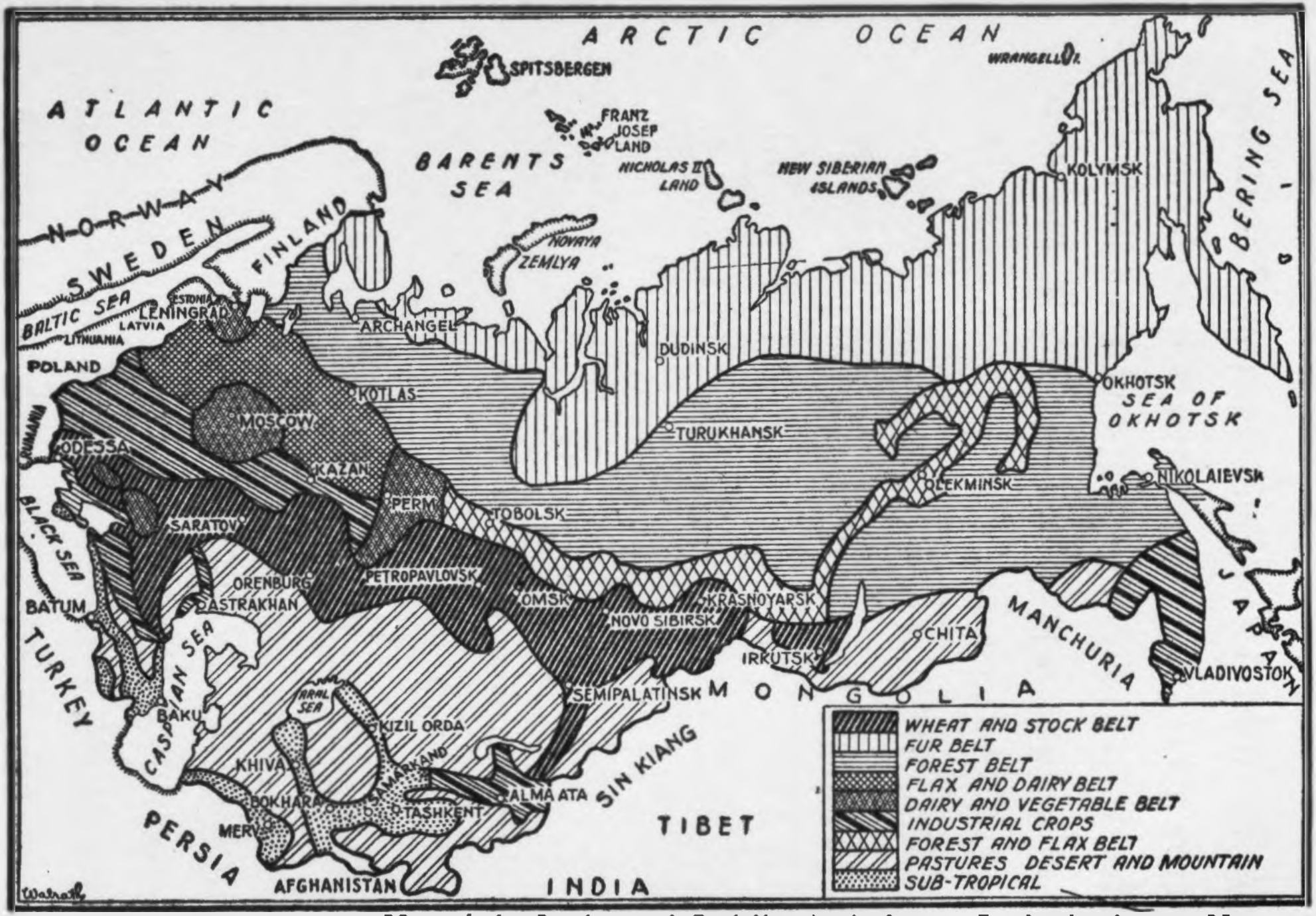
Less spectacular, but not less radical, are the other suggestions for the redistribution of crops

which the Institute of Economics and Organization of Socialist Agriculture—a branch of the Lenin Academy—has put forward, and the Government has accepted. In accordance with these suggestions, the country will be divided into five zones.

The first, that of technical crops and intensive stock-breeding, will comprise the South-west Ukraine, the Central Black Soil Belt, the Northern Kuban, and some parts of the Far East. Here will be cultivated hemp, sugar beet, corn, soya beans, tobacco, cotton, sunflowers and kenaff.

The second, that of flax, dairy produce and market gardening, will embrace waste lands and pastures of the "grain-concerning" districts, an area extending from the Baltic through Moscow to the Urals.

The third, that of sub-tropical culture, will stretch from the Southern Crimea through the



Map of the Institute of Socialist Agriculture. Lenin Academy. Moscow.

Geographical Redistribution of Crops

(*Projected Belts of Special Production*)

Caucasus to Middle Asia. The main crops to be grown here are cotton, tea, grapes, plums, apples, melons and oranges; and the idea is to transform the whole district into a Russian Florida and California.

The fourth, that of extensive stock-breeding, is to be situated in the mountainous parts of the Burjat Mongolian Republic and in the south-eastern steppes of trans-Volga. This will be the scene of operations of the "cattle breeder" and the "sheep-breeder" trusts. (The pig-breeder's farms will be mainly confined to the first two zones.)

The fifth zone, that of forests, which extends from Archangel to the Pacific and occupies about a quarter of the country, is regarded by the Institute as a future reserve of arable land.

This is but a bare outline of an enormous program which will require generations for its

completion. It is typical of the optimistic mentality of the time, that such a program should be undertaken in all seriousness as a task for execution in a few short years.

VIII

CONCLUSION

I HAVE endeavored to outline the trend of the ambitious and grandiose schemes which are being put in operation by the Bolsheviks with a view to socializing Russian Agriculture. Will those schemes succeed? As I have pointed out, there are two objectives in view. One is to raise agricultural production by mechanization and by inducing the peasants to employ large-scale methods of cultivation through coöperation and pooling their holdings. This movement is still in its early stages; but I am confident myself that mechanization of technique can be said to have been accepted by the peasants. The progress of mechanization will depend entirely on the progress of

the industrialization of the country. That is to say, it will depend on whether the industries are able to supply the machines necessary to mechanization. As to coöperative effort and the pooling of holdings, my view is that mechanization makes an escape from collectivization impossible. Once tractors and combines are used on an extensive scale, small individual holdings must disappear.

The other objective of the Five Year Plan—the establishment of Socialism in the villages—is quite a different matter. It would be unwise to dogmatize on the subject; for there is no material with which to start a discussion. All that is known is that shock-methods employed last year to "deepen" collectivization by giving it a Communist tinge proved a failure. Obviously mechanization and even collectivization cannot create Communism. Neither can conversion to Communism take place as the result

of sheer relentless compulsion. Even the sanguine and impatient Bolsheviks admit that collectivization is only a road and a long road to Socialism. It may prove a longer and a more devious road than they expected. But while the odds seem not to favor the chances of Communism in the villages, there are some factors which make such a development less impossible than it would seem at first sight. And the main factor, in my opinion, is the idea of a new life which has been awakened among the active members of the younger generation.

THE END